TOSHIBA

FILE NO. 023-200503
SUPPLEMENT

SERVICE MANUAL

Projection Television

62HM14

– SUMMARY –

62HM14 is the same as 62HM84 except for the parts tabled on this manual.
Use this service manual together with the original service manual of 46/52/62HM84 (File No. 020-200401 Revised.2).

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DOCUMENT CREATED IN JAPAN, Mar., 2005

CHASSIS AND CABINET REPLACEMENT PARTS LIST

Location No.	Parts No.	Description
CAPACITORS		
C668	24105560	CERAMIC CHIP, 50V CH 56PF J
C669	24105560	CERAMIC CHIP, 50V CH 56PF J
C898	24503041	PLASTIC FILM , 63V 0.1UF J
C8250	24073141	ELECTROLYTIC, 10V 1000UF M 3A
C8252	24073141	ELECTROLYTIC, 10V 1000UF M 3A
RESISTORS		
R8242	24367101	CARBON FILM, 1/6W 100 OHM G
SEMICONDUCTORS		
QA93	23085067	IC, R1121N331B-TR-FA
QV009	23205014	TRANSISTOR, 2SC4667-O
D887	23316768	DIODE, FMB-26L
D8200	23118859	DIODE, 1SS133
D8931	23118859	DIODE, 1SS133
D8941	23118859	DIODE, 1SS133
MISCELLANEOUS		
M802A	23103839	FERRITE CORE, TFE1012
M811A	23103778	FERRITE CORE, TFE1008
M905A	23103778	FERRITE CORE, TFE1008
M905E	23103840	FERRITE CORE, TFE1013
MB91A	23103840	FERRITE CORE, TFE1013
MV01A	23103840	FERRITE CORE, TFE1013
P800A	23103840	FERRITE CORE, TFE1013
ZB22B	23103840	FERRITE CORE, TFE1013
PC BOARD ASSEMBLIES		
* UV02	23148145	MODULE, 04HDMI-01A MHDM01A
ACCESSORIES		
A701	23015050	CARTON
⚠ Y101E	23566611	OWNERS MANUAL, ENGLISH
CABINET PARTS		
⚠ A201	23533365	COVER, BEZEL PURCHASE ASSY
⚠ A222	23533268	COVER, PEDESTAL PURCHASE
A227	23433350	DECORATIVE, CTRL PANEL TRIM
AA01	23429390	CABINET, STAND MODEL# ST6214
K601	23405455	MIRROR, 62G4M3

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TOSHIBA

FILE NO. 020-200401
REVISED.2

SERVICE MANUAL

Projection Television

46HM84
52HM84
62HM84

Published in Japan, Jan. 2005 (YC)

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CIRCUIT DIAGRAM

CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

SAFETY PRECAUTION

WARNING: Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. When replacing a chassis in the cabinet, always be certain that all the prospective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.

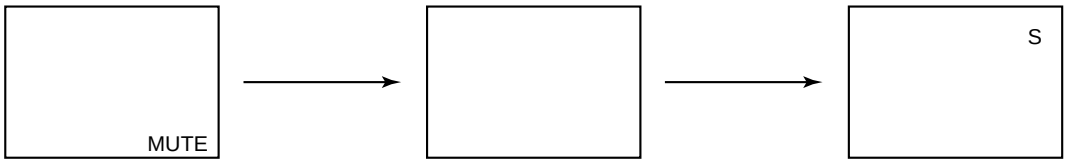
PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety character istics as specified in the parts list may create shock, fire, or other hazards.

SERVICE MODE

1. ENTERING SERVICE MODE

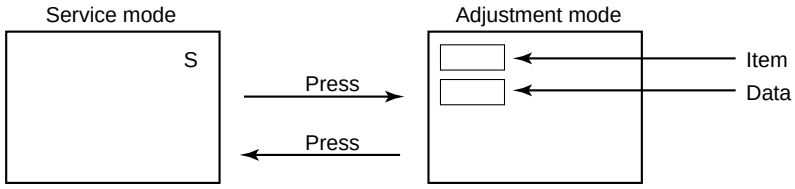
1) Press MUTE button twice on Remote Control.
2) Press MUTE button again and keep pressing.
3) While pressing the MUTE button, press MENU button on TV set.



(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-1 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 8)

4. ADJUSTING THE DATA

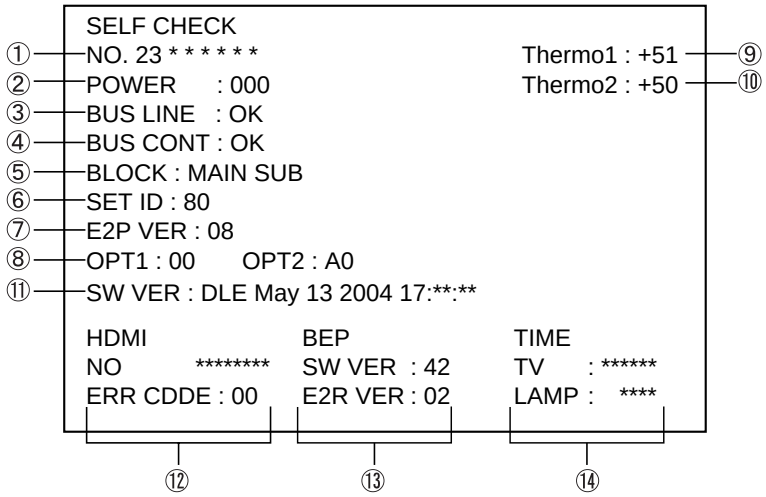
1) Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

5. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

6. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s is executed properly.
2) During diagnosis, the following displays are shown.



① Part number of microprocessor (IC609)
② Operation number of protection circuit (The number of times of the power supply OFF by fan stop) . . . . “000” is normal.
③ BUS line check
- “OK” ..... Normal
- “SCL-GND” or “NG” ..... SCL-GND short circuit
- “SDA-GND” or “NG” ..... SDA-GND short circuit
- “SCL-SDA” or “NG” ..... SCL-SDA short circuit

④ BUS line ACK (acknowledge) check
- “OK” ..... Normal

⑤ Sync. signal check
- Green display ..... Normal
- Red display ..... NG

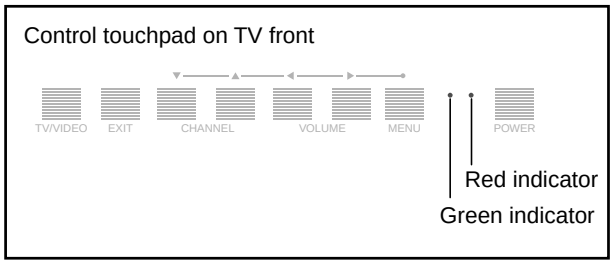
  MAIN ..... Main sync
  SUB ..... Sub sync (when turn on the PIP)

⑥ ID code for TV Set
⑦ Version of "EEP"
⑧ Data for "OPT"
⑨ Temperature of DMD
⑩ Temperature of the color wheel neighborhood
⑪ Software version history
⑫ HDMI Software
   NO ***** .....Serial No.
   ERR CODE .....Error Code
⑬ BEP Software Version
   SW VER : **.....Version
   E2P VER : ** EEP ROM Version
⑭ Use time
   TV .....TV set on time (hour)
   LAMP.....LAMP set on time (hour)
   (It may shift from TV set on time.)

7. LED indications

The green and red LED lights on the TV control touchpad (on the lower right corner of the TV screen) indicate the TV's current status, as follows:

- Green ON = Control touchpad being pressed.
- Red ON = Power ON.
- Green and/or Red blinking
  (see table below for condition and solution).



	LED Indication	Condition	Solution
1	Red and Green turn off.	Power supply OFF. (AC)	
2	Red and Green turn off.	Power supply OFF. (Standby) (North America)	
3	Red light solid and Green off.	Power supply ON.	
4	Red and Green lights solid.	Touched the touchpad	
5	Green blinks at 1-second intervals; Red off.	Lamp LPS mode	
6	Green blinks at 0.3-second intervals; Red lights solid.	The lamp is not working properly.	The TV automatically will try to reset itself three times.
7	Green lights solid and Red blinks at 0.5-second intervals.	The lamp unit door is not seated properly. (U)	Turn the POWER OFF and unplug the power cord. Review “How to replace the lamp unit” on pages 12-14 to ensure that the lamp unit door is installed securely.
8	Green and Red blink at 1-second intervals.	The lamp is not working properly after the third automatic reset (see item #7). (U)	Turn the POWER OFF and then ON again. If the problem persists, replace the lamp unit (see pages 12-14).
9	Red blinks at 0.5-second intervals; Green off.	FAN (Light engine unit) has stopped.	• Is the output voltage of the supply voltage regulator for the FAN in the power circuit normal? • Has dust accumulated in the FAN? → If the output voltage is not abnormal, replace the faulty FAN with a new one.
10	Red blinks at 1-second intervals; Green off.	BUS line is damaged	• Check the faulty device through the self diagnostics function under SERVICE mode. • Does BUS line (SCL, SDA) work normally? → If the BUS line is under abnormal conditions, replace the faulty device with a new one.
11	Red blinks three times; Green off.	The color wheel has stopped.	• Is the output voltage of the power supply circuit normal? → If the output voltage is normal, replace the engine with a new one.
12	Red and Green blink three times.	Temperature rises abnormally.	• Is the ventilating hole in the set (exhaust slot on the rear) blocked or covered? • Is FAN rotating normally? • Has dust accumulated in the ventilating hole? → If no abnormally conditions are found, replace the engine with a new one.

(U) is restoration by the user.

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

【SERVICE MODE】

ADJUSTING ITEMS AND DATA IN THE SERVICE MODE:

Item	Name of adjustment	Preset	Data
RCUT	R CUT OFF	60H	←
GCUT	G CUTOFF	60H	←
BCUT	B CUT OFF	64H	←
RDRV	R DRIVE	48H	←
GDRV	G DRIVE	53H	←
BDRV	B DRIVE	5FH	←
BRTC	BRIGHT CENTER	76H	←
SCNT	SUB CONTRAST FOR TV	20H	←
COLC	COLOR CENTER	D0H	←
UVTT	BASE BAND TINT	40H	←
CNTX	SUB CONTRAST MAX	7FH	←
HPOS	H-POSITION (PAL/DFS)	00H	←
VPOS	V-POSITION DC SHIFT (PAL/DFS)	00H	←
CWDH	COLOR WHEEL DELAY (HIGH)	00H	←
CWDL	COLOR WHEEL DELAY (LOW)	FAH	←
DMDB	DMD BIAS	03H	←
OPT0	TV SET OPTION 1	00H	←

Item	Name of adjustment	Preset	Data
OPT1	TV SET OPTION 2	A0H	←
TVOP	TV OPTION	40H	←
PLLW0	PLL WAIT TIME	14H	←
PLLW1	PLL WAIT TIME	03H	←
PLLW2	PLL WAIT TIME	0FH	←
PLLW3	PLL WAIT TIME	05H	←
PLLW4	PLL WAIT TIME	14H	←
PLLW5	PLL WAIT TIME	04H	←
V01	VOLUME (DATA)	23H	←
V25	VOLUME (DATA)	4AH	←
V50	VOLUME (DATA)	63H	←
V75	VOLUME (DATA)	6FH	←
V100	VOLUME (DATA)	73H	←
MODH	MODUS DATA HIGH	20H	←
MODL	MODUS DATA LOW	91H	←
PRES	FMAM PRESCALE	24H	←
SCTH	VOLUME SCART OPTION HIGH	73H	←
SCTL	VOLUME SCART OPTION LOW	01H	←

Table-1

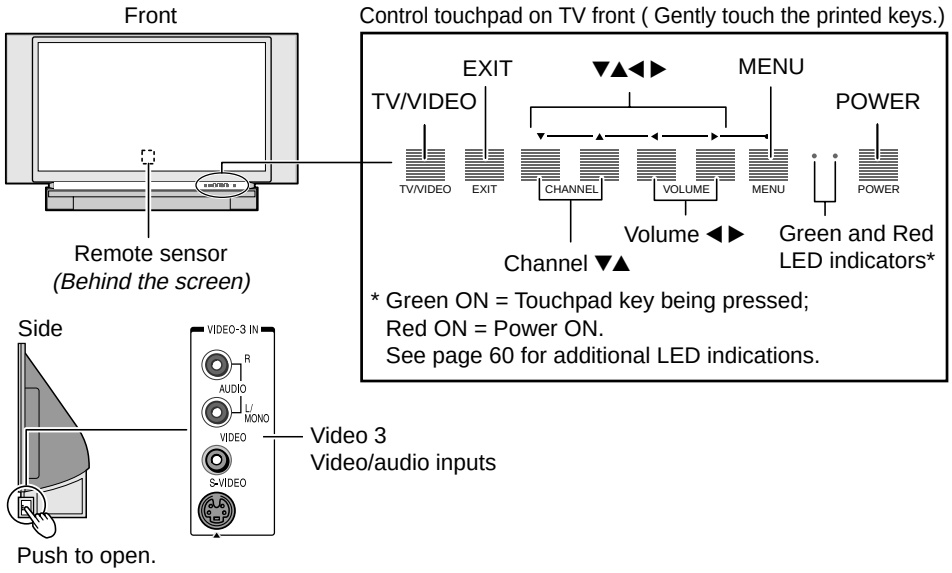
Note:

The image system data of RCUT-CNTX is different by each image format.

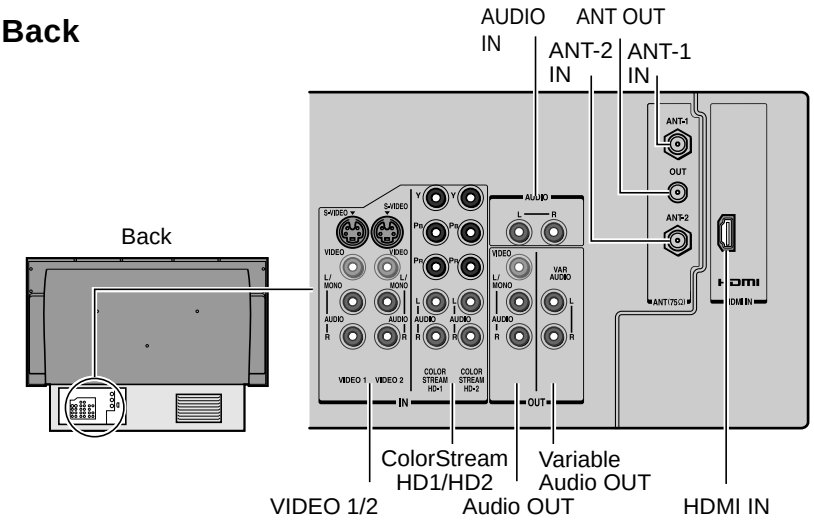
The NTSC value is indicated in the table.

LOCATION OF CONTROLS

Front



Back



Remote Control

POWER turns the TV on and off

RECALL displays screen information

SLEEP sets the TV to turn off at a specific time

TV/VIDEO selects video input source

MUTE mutes the sound

Device Switch switches between TV, CBL/SAT, VCR and DVD
Set to "TV" to control the TV.

CH (channel) ▲▼ cycles through programmed channels

Channel Numbers (0-9, 100) allow direct access to channels

VOL (volume) ▲▼ adjusts the volume level

CH RTN returns to the memorized channel

MENU allows access to on-screen programming menus

ENTER activates the function settings in the menu

▲▼◄► select or adjust programming menus

POP CH ▲▼ selects the POP (picture-out-picture) channel

FAV ▲▼ cycles through favorite channels

FAVORITE allows access to the favorite channel search function

PIC SIZE cycles through the five picture sizes: Natural, Theater Wide 1, 2, 3, and Full

EXIT exits programming menus

SPLIT turns the POP feature on and off

SOURCE selects the POP picture source

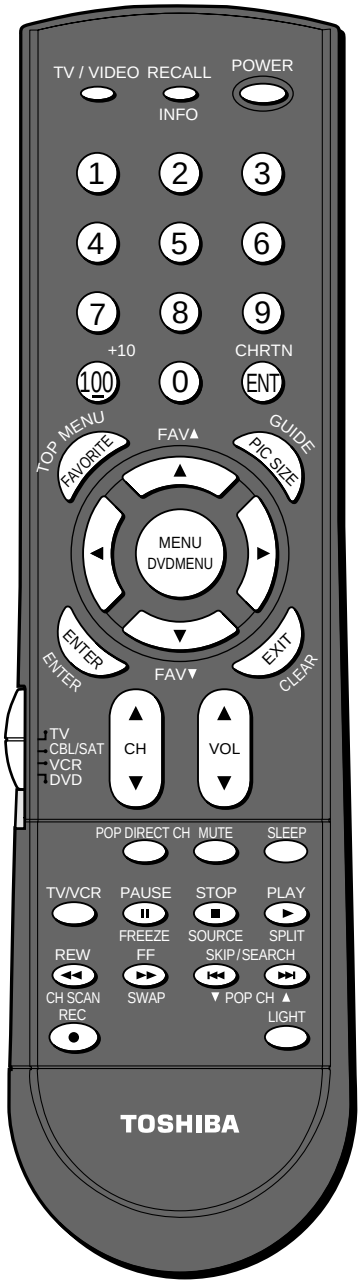
FREEZE freezes the picture. Press again to restore the picture.

SWAP switches the main and POP pictures

POP DIRECT CH allows direct access to POP channels

CH SCAN allows access to the programmed channel search function

LIGHT illuminates the keypad for five seconds



Note:
The error message "Not Available" will appear if you press a key for a function that is not available.

PROGRAMMING CHANNEL MEMORY

Adding channels to the TV's memory

When you press Channel ▲ or ▼, your TV will stop only on the channels stored in the TV's channel memory.

Follow the steps below and on the next page to program all active channels into the TV's memory.

Note:

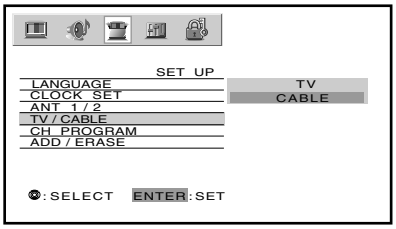
To tune the TV to a channel not programmed in the channel memory, you must use the Channel Number buttons on the remote control.

Programming channels automatically

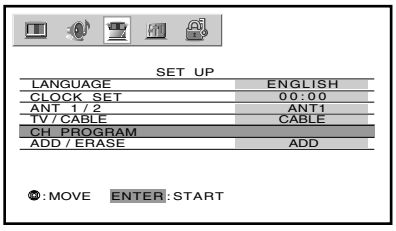
Your TV can automatically detect all active channels in your area and store them in its memory. After the channels are stored automatically, you can manually add or erase individual channels (see page 25).

To program channels automatically:

1. Press MENU, and then press ◀ or ▶ until the SET UP menu appears.
2. Press ▲ or ▼ until the TV/CABLE is highlighted, and then press ENTER to display the pull-down menu.
3. Press ▲ or ▼ to highlight either TV or CABLE, depending on which you use. If you use an antenna, highlight TV; if you use cable, highlight CABLE.

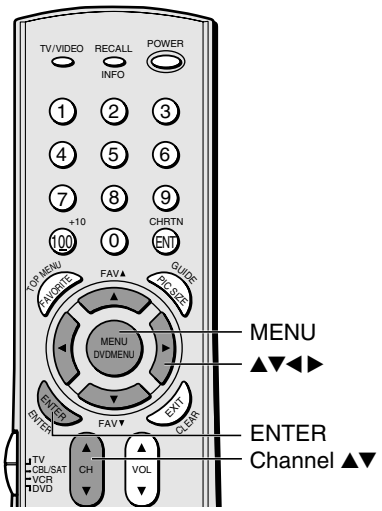


4. Press ENTER.
5. Press ▼ to select CH PROGRAM.



6. Press ENTER to start channel programming. The TV will automatically cycle through all the TV or Cable channels (depending on which you selected), and store all active channels in the channel memory.

   While the TV is cycling through the channels, the message "Programming Now—Please Wait" appears.
7. When channel programming is complete,the message "Completed" appears.
8. Press Channel ▲ or ▼ to view the programmed channels.

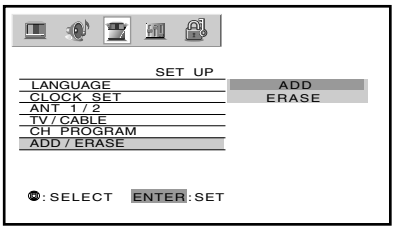


Adding and erasing channels manually

After you have programmed the channels automatically, you can manually add or erase specific channels.

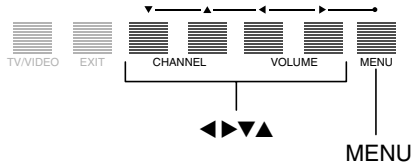
To add or erase channels:

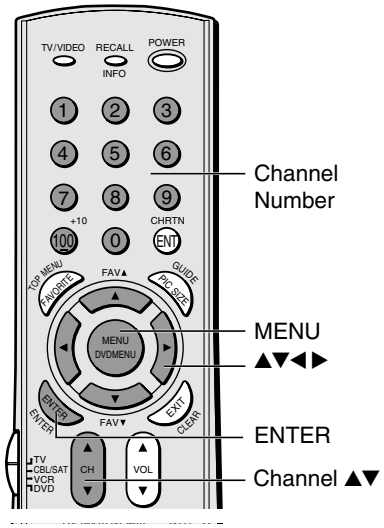
1. Select the channel you want to add or erase. If you are adding a channel, you must select the channel using the Channel Number buttons.
2. Press MENU, and then press ◀ or ▶ until the SET UP menu appears.
3. Press ▲ or ▼ to highlight ADD/ERASE, and then press ENTER to display the pull-down menu.



4. Press ▲ or ▼ to select ADD or ERASE, depending on the function you want to perform.
5. Repeat steps 1-4 for other channels you want to add or erase.

Control touchpad on TV front





LAMP UNIT REPLACEMENT

Cautions when replacing LAMP UNIT (SK02)

The light source for this TV is a mercury lamp with internal atmospheric pressure that increases during use. The lamp has a limited service life that varies depending on user settings. If you use the lamp beyond its service life:

- you may notice a reduction in the colors and/or brightness of the picture; and
- the strength of the quartz glass in the lamp will be reduced and the lamp may rupture (often making a loud noise when this happens). If the lamp reputres, the TV will not operate until the lamp unit is replaced.

Note: The lamp unit is designed so broken lamp glass remains securely inside the lamp unit.

CAUTION: Always handle the lamp unit with care.
The lamp unit in this TV was designed for safe replacement by consumers; however, if the lamp unit is subjected to intentional abuse (such as excessive mechanical abuse or handling by children or pets), the unit may break, exposing edges or pinch points.

When to replace the lamp unit

You should replace the lamp unit:

- if the picture darkens and/or colors fade;
- if the lamp does not light; or
- If you hear a loud noise and the picture goes black, which may indicate a lamp rupture (LED indication #8). See LED indications on page 6.

1. Turn off the TV and unplug the power cord.

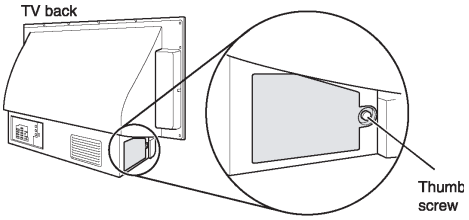
WARNING: Eye damage may result from directly viewing the light produced by this lamp. Always turn off the TV and unplug the power cord before opening the lamp unit door.

2. STOP! Allow the lamp to cool for at least one (1) hour before replacing it.

CAUTION: HOT SURFACE

The temperature of the lamp immediately after use exceeds 392 F (200 C). Touching the lamp at this temperature will result in injury. **ALLOW THE LAMP TO COOL FOR AT LEAST ONE (1) HOUR BEFORE REPLACING IT.**

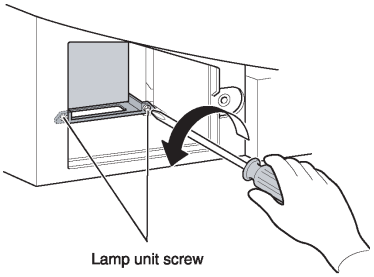
3. On the back of the TV, loosen the thumb screw (by hand) on the lamp unit door, and then remove the lamp unit door.



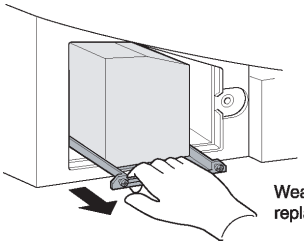
Lamp unit door detail

WARNING: The lamp unit door is provided with an interlock to reduce the risk of electric shock and excessive ultraviolet radiation. **Never defeat its purpose or attempt to service without removing the lamp unit door completely.** Failure to follow this WARNING may result in death or serious injury.

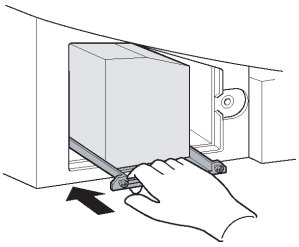
4. Using a manual screwdriver, loosen two screws on the lamp unit.


Lamp unit screw

5. Grasp the lamp unit handle and gently pull the lamp unit straight out of the TV. Set the old lamp unit aside.

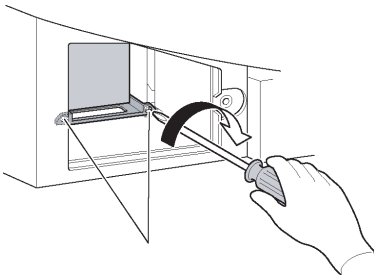

Wear gloves when replacing the lamp unit

6. Carefully insert the new lamp unit straight into the TV until it is fully seated.



Note :
- Never subject the lamp unit to excessive shock.
- Never touch the lamp unit glass or otherwise get it dirty.
- Doing so may affect the image quality and reduce the service life of the lamp. See “Cleaning the lamp unit glass” below.

7. Using a manual screwdriver, tighten two lamp unit screws.
Note:Hand-tighten only. Do not use an electric screwdriver.

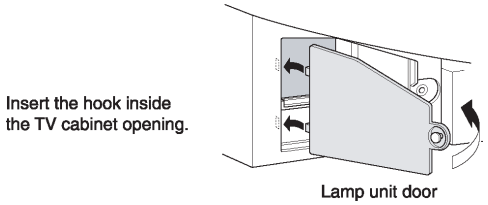

Lamp unit screw
(hand-tighten only)

Cleaning the lamp unit glass

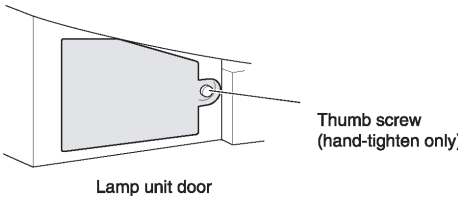
If you accidentally touch the lamp unit glass or otherwise get it dirty, wipe it with a lint-free lens cleaning cloth (such as a cloth for cleaning camera lenses or eyeglasses).

CAUTION: NEVER clean a hot lamp with any type of flammable liquid or aerosol cleaning agent. Many ordinary cleaning agents (such as glass cleaners) contain chemicals that may be flammable at certain temperatures. If the lamp unit is not allowed to cool for at least one (1) hour, such chemicals may ignite.

8. Reattach the lamp unit door, making sure to insert the hook on the left side of the lamp unit door inside the opening in the TV cabinet.



9. Replace the thumb screw and hand-tighten.



NOTE: Make sure the lamp unit and screw are installed securely; otherwise, the TV may not turn on and the lamp life may be shortened.

10. Plug in the power cord and turn on the TV. After the initial warmup period (which may take up to 45 seconds for full picture brightness), the TV should operate normally. If any of the following conditions exist, turn off the TV, unplug the power cord, and repeat steps 1-9 to ensure that the lamp unit and lamp unit door are installed correctly:
    - No picture
    - Dark picture
    - TV will not turn on

LIGHT ENGINE REPLACEMENT

Cautions when replacing LIGHT ENGINE

LIGHT ENGINE UNIT:

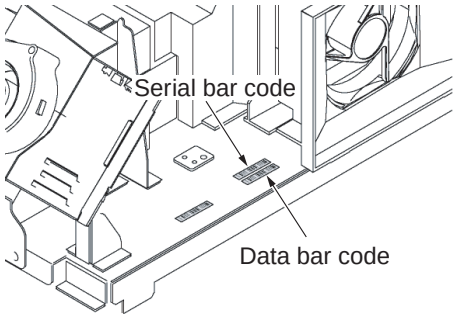
A271 : PJ-TB25-46/52/62 (Including with SK02 to SK08)

SK01 : PJ-TB-25-46S/52S/62S
(Including with SK03 to SK08 except SK02)

- LIGHT ENGINE is a heart of the TV and emits high heat. Make sure to replace it after turning off the TV and wait for sufficient cool down. (More than one hour is recommended.)
- Do not impact during replacement; otherwise, some parts may be damaged.
- Do not touch optical lens. Adhesion of dirt may deteriorate its performance.
- Do not loosen any screw other than those to be removed for adjustment or replacement.
- LIGHT ENGINE emits ultraviolet rays when the TV is ON. Make sure to be careful.

1. Replacement of Light Engine Unit

1-1. When Light Engine Unit is replaced with a new one, adjustment is required. Adjusted values are described in bar code, and the values of bar code must be converted to the adjusted values for the setup. There are 2 types of bar code.



Serial bar code

Ex. 52A000A111111

Inch size　Serial numbers

Data bar code (CW: color wheel)

Ex. A111111B1111

CWdelay number: 4digits

DMD bias value

Substrate serial numbers

1-2. Adjustment is made from service mode. The adjusting items consist of CWDL, CWDH and DMDB.

CWDL　CWDH

When CW delay number of the data bar code is 0450:

0450 indicates ⇒ 450 ⇒ 45.0
Double 45.0 to form hexadecimal number (HEX).

45.0 x 2=90 ⇒ 5A (hexadecimal)
The adjusted value becomes “5A” for CWDL and “00” for CWDH.
If hexadecimal number forms 3 or 4 digits, the latter 2 digits indicate CWDL while the first 2 digits indicate CWDH.
(For 3 digits, CWDH=0*)

Note:
For converting decimal number to hexadecimal number, see the conversion table on the next page.

DMDB

Read DMD bias value described in alphabet from the data bar code. In service mode, DMDB value is converted and fixed by the following table.

DMD value in bar code	Adjusted value (Hex)
B	00
C	01
D	02
E	03
F	04

Refer to Service Mode for adjusting the service mode.

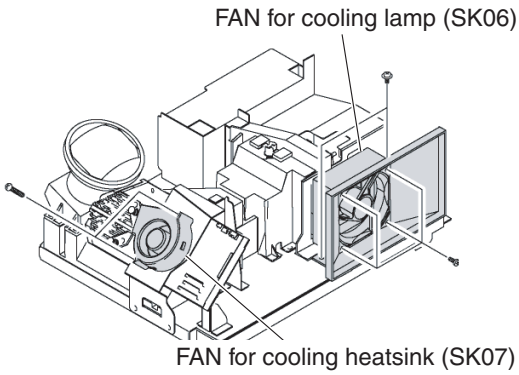
Conversion Table for Decimal and Hexadecimal Numbers

CW delay number	CWDH	CWDL
0000	00	00
0005	00	01
0010	00	02
0015	00	03
0020	00	04
0025	00	05
0030	00	06
0035	00	07
0040	00	08
0045	00	09
0050	00	0A
0055	00	0B
0060	00	0C
0065	00	0D
0070	00	0E
0075	00	0F
0080	00	10
0085	00	11
0090	00	12
0095	00	13
0100	00	14
0105	00	15
0110	00	16
0115	00	17
0120	00	18
0125	00	19
0130	00	1A
0135	00	1B
0140	00	1C
0145	00	1D
0150	00	1E
0155	00	1F
0160	00	20
0165	00	21
0170	00	22
0175	00	23
0180	00	24
0185	00	25
0190	00	26
0195	00	27
0200	00	28
0205	00	29
0210	00	2A
0215	00	2B
0220	00	2C
0225	00	2D
0230	00	2E
0235	00	2F
0240	00	30
0245	00	31
0250	00	32
0255	00	33
0260	00	34
0265	00	35
0270	00	36
0275	00	37
0280	00	38
0285	00	39
0290	00	3A
0295	00	3B
0300	00	3C
0305	00	3D
0310	00	3E
0315	00	3F
0320	00	40
0325	00	41
0330	00	42
0335	00	43
0340	00	44
0345	00	45
0350	00	46
0355	00	47
0360	00	48
0365	00	49
0370	00	4A
0375	00	4B
0380	00	4C
0385	00	4D
0390	00	4E
0395	00	4F
0400	00	50
0405	00	51
0410	00	52
0415	00	53
0420	00	54
0425	00	55
0430	00	56
0435	00	57
0440	00	58
0445	00	59
0450	00	5A
0455	00	5B
0460	00	5C
0465	00	5D
0470	00	5E
0475	00	5F
0480	00	60
0485	00	61
0490	00	62
0495	00	63
0500	00	64
0505	00	65
0510	00	66
0515	00	67
0520	00	68
0525	00	69
0530	00	6A
0535	00	6B
0540	00	6C
0545	00	6D
0550	00	6E
0555	00	6F
0560	00	70
0565	00	71
0570	00	72
0575	00	73
0580	00	74
0585	00	75
0590	00	76
0595	00	77
0600	00	78
0605	00	79
0610	00	7A
0615	00	7B
0620	00	7C
0625	00	7D
0630	00	7E
0635	00	7F
0640	00	80
0645	00	81
0650	00	82
0655	00	83
0660	00	84
0665	00	85
0670	00	86
0675	00	87
0680	00	88
0685	00	89
0690	00	8A
0695	00	8B
0700	00	8C
0705	00	8D
0710	00	8E
0715	00	8F
0720	00	90
0725	00	91
0730	00	92
0735	00	93
0740	00	94
0745	00	95
0750	00	96
0755	00	97
0760	00	98
0765	00	99
0770	00	9A
0775	00	9B
0780	00	9C
0785	00	9D
0790	00	9E
0795	00	9F
0800	00	A0
0805	00	A1
0810	00	A2
0815	00	A3
0820	00	A4
0825	00	A5
0830	00	A6
0835	00	A7
0840	00	A8
0845	00	A9
0850	00	AA
0855	00	AB
0860	00	AC
0865	00	AD
0870	00	AE
0875	00	AF
0880	00	B0
0885	00	B1
0890	00	B2
0895	00	B3
0900	00	B4
0905	00	B5
0910	00	B6
0915	00	B7
0920	00	B8
0925	00	B9
0930	00	BA
0935	00	BB
0940	00	BC
0945	00	BD
0950	00	BE
0955	00	BF
0960	00	C0
0965	00	C1
0970	00	C2
0975	00	C3
0980	00	C4
0985	00	C5
0990	00	C6
0995	00	C7
1000	00	C8
1005	00	C9
1010	00	CA
1015	00	CB
1020	00	CC
1025	00	CD
1030	00	CE
1035	00	CF
1040	00	D0
1045	00	D1
1050	00	D2
1055	00	D3
1060	00	D4
1065	00	D5
1070	00	D6
1075	00	D7
1080	00	D8
1085	00	D9
1090	00	DA
1095	00	DB
1100	00	DC
1105	00	DD
1110	00	DE
1115	00	DF
1120	00	E0
1125	00	E1
1130	00	E2
1135	00	E3
1140	00	E4
1145	00	E5
1150	00	E6
1155	00	E7
1160	00	E8
1165	00	E9
1170	00	EA
1175	00	EB
1180	00	EC
1185	00	ED
1190	00	EE
1195	00	EF
1200	00	F0
1205	00	F1
1210	00	F2
1215	00	F3
1220	00	F4
1225	00	F5
1230	00	F6
1235	00	F7
1240	00	F8
1245	00	F9
1250	00	FA
1255	00	FB
1260	00	FC
1265	00	FD
1270	00	FE
1275	00	FF
1280	01	00
1285	01	01
1290	01	02
1295	01	03
1300	01	04
1305	01	05
1310	01	06
1315	01	07
1320	01	08
1325	01	09
1330	01	0A
1335	01	0B
1340	01	0C
1345	01	0D
1350	01	0E
1355	01	0F
1360	01	10
1365	01	11
1370	01	12
1375	01	13
1380	01	14
1385	01	15
1390	01	16
1395	01	17
1400	01	18
1405	01	19
1410	01	1A
1415	01	1B
1420	01	1C
1425	01	1D
1430	01	1E
1435	01	1F
1440	01	20
1445	01	21
1450	01	22
1455	01	23
1460	01	24
1465	01	25
1470	01	26
1475	01	27
1480	01	28
1485	01	29
1490	01	2A
1495	01	2B
1500	01	2C
1505	01	2D
1510	01	2E
1515	01	2F
1520	01	30
1525	01	31
1530	01	32
1535	01	33
1540	01	34
1545	01	35
1550	01	36
1555	01	37
1560	01	38
1565	01	39
1570	01	3A
1575	01	3B
1580	01	3C
1585	01	3D
1590	01	3E
1595	01	3F
1600	01	40
1605	01	41
1610	01	42
1615	01	43
1620	01	44
1625	01	45
1630	01	46
1635	01	47
1640	01	48
1645	01	49
1650	01	4A
1655	01	4B
1660	01	4C
1665	01	4D
1670	01	4E
1675	01	4F
1680	01	50
1685	01	51
1690	01	52
1695	01	53
1700	01	54
1705	01	55
1710	01	56
1715	01	57
1720	01	58
1725	01	59
1730	01	5A
1735	01	5B
1740	01	5C
1745	01	5D
1750	01	5E
1755	01	5F
1760	01	60
1765	01	61
1770	01	62
1775	01	63
1780	01	64
1785	01	65
1790	01	66
1795	01	67

PARTS REPLACEMENT IN LIGHT ENGINE

1. FAN Replacement (SK06 and SK07)

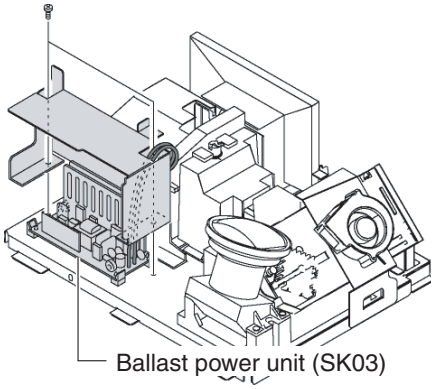
1-1. For replacing FAN for cooling heatsink (SK07), remove 2 screws.
For replacing FAN for cooling lamp (SK06), detach FAN hood located on LIGHT ENGINE by removing 2 screws and then remove 4 screws.



2. Replacement of Ballast Power Unit (SK03)

2-1. Remove lamp unit by loosening 2 screws.
(Refer to pages 12 to 14)

2-2. Remove 2 screws holding chassis of ballast power unit (SK03) to detach the chassis.
Note:
Treat with enough care so as not to damage the cable for lamp power.

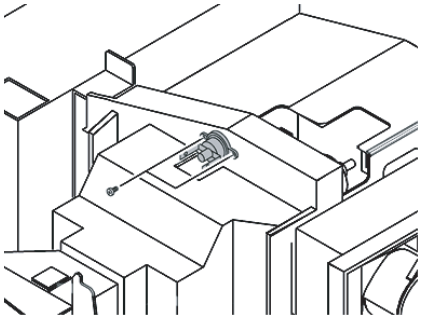


2-3. Detach the ballast power unit by removing 4 substrate stoppers that hold the ballast power unit.

CAUTION
Precautions When Exchanging Ballast Power Units
When you install a new ballast power unit, install it while pushing the four corners of the board directly. Installation while pressing the heatsink may cause the pattern crack.

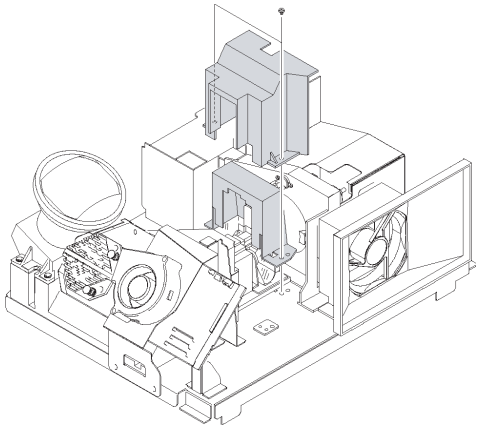
3. Replacement of Temperature Breaker (SK08)

3-1. Remove 2 screws for replacing the temperature breaker (SK08) for lamp.

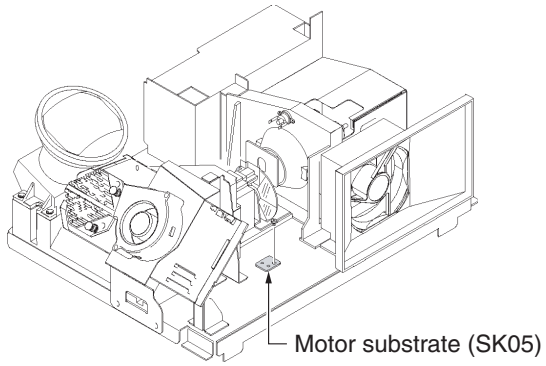


4. Replacement of Sensor Unit (Photo Detector Substrate) (SK04) & Motor Unit (Motor Substrate) (SK05)

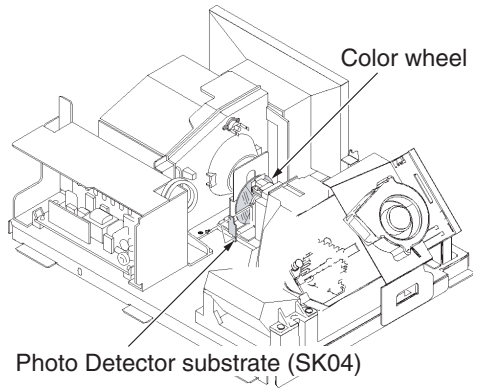
4-1. Remove 2 screws fixing a color wheel cover and UV filter box.



4-2. Remove one screw for Motor Substrate (SK05).



4-3. Remove 2 screws holding Photo Detector substrate (SK04).



Caution
- When removing screws, do not damage the color wheel with drivers, etc. Even a small impact may damage the color wheel.
- Make sure not to touch the color wheel.
- Don't remove other screws by any means.

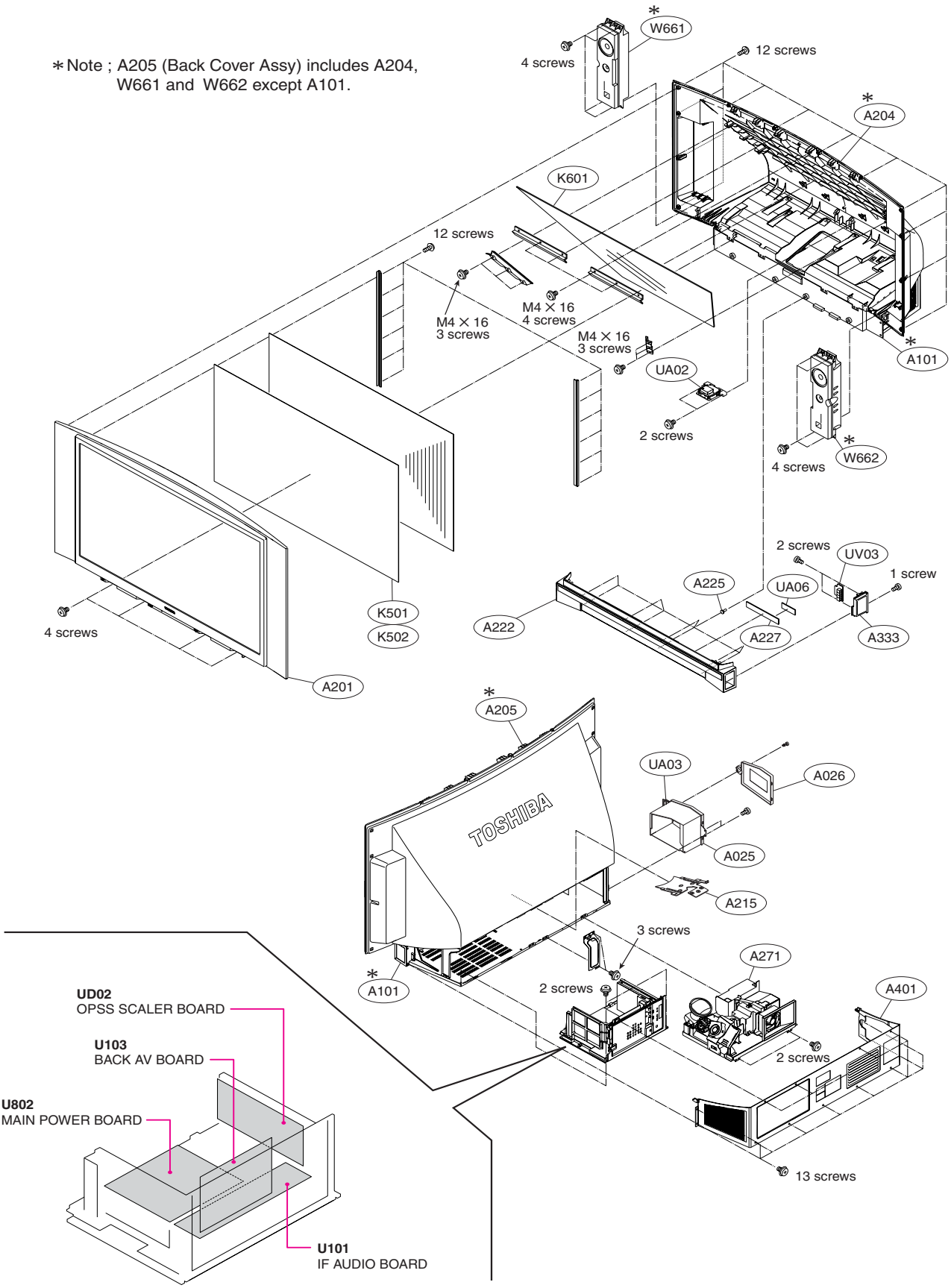
5. LIGHT ENGINE UNIT

Location No.		Parts No.	Description
⚠ A271	#1	23405378	OPTICAL ENGINE, PJ-TB25-46 (Incl. SK02-SK08)
⚠	#2	23405372	OPTICAL ENGINE, PJ-TB25-52 (Incl. SK02-SK08)
⚠	#3	23405379	OPTICAL ENGINE, PJ-TB25-62 (Incl. SK02-SK08)
SK01	#1	23405384	OPTICAL ENGINE, PJ-TB25-46S (Incl. SK03-SK08)
	#2	23405385	OPTICAL ENGINE, PJ-TB25-52S (Incl. SK03-SK08)
	#3	23405386	OPTICAL ENGINE, PJ-TB25-62S (Incl. SK03-SK08)
SK02		23587201	SERVICE KIT, SHP66 LAMP UNIT
SK03		23122468	POWER UNIT, RPB-4434ZA
SK04		23762354	PC BOARD ASSY, SENSOR UNIT PD1823
SK05		23762355	PC BOARD ASSY, MOTOR UNIT PD1824
SK06		23125920	FAN, D09A-12PS6 01B(K)
SK07		23125919	FAN, D07F-12SS18 01B(EX)
SK08		23144199	BREAKER, US-603UXTLQE-H

#1:[46HM84] #2:[52HM84] #3:[62HM84]

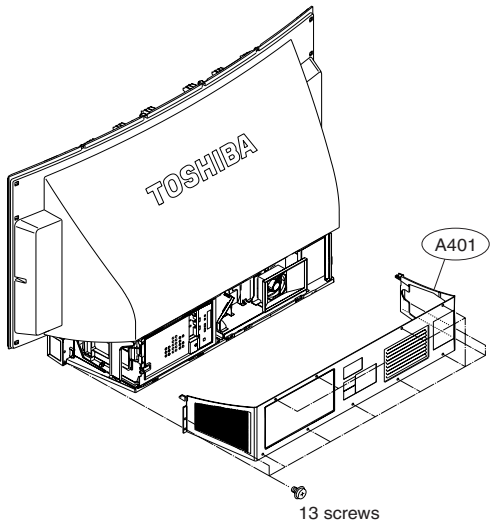
EXPLODED VIEW

∗Note ; A205 (Back Cover Assy) includes A204, W661 and W662 except A101.

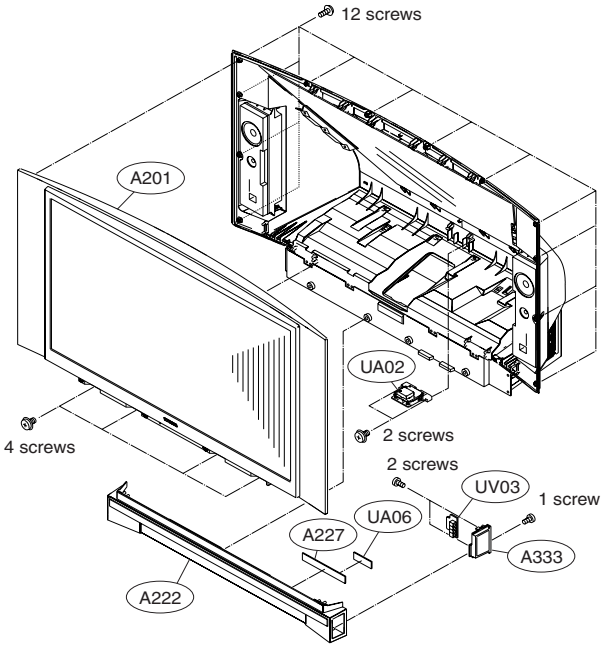


MECHANICAL DISASSEMBLY

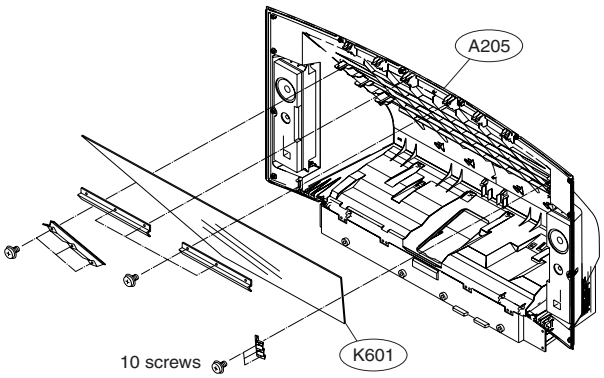
1 Rear Cover Removal



2 Touchpad & Bezel Ass'y Removal

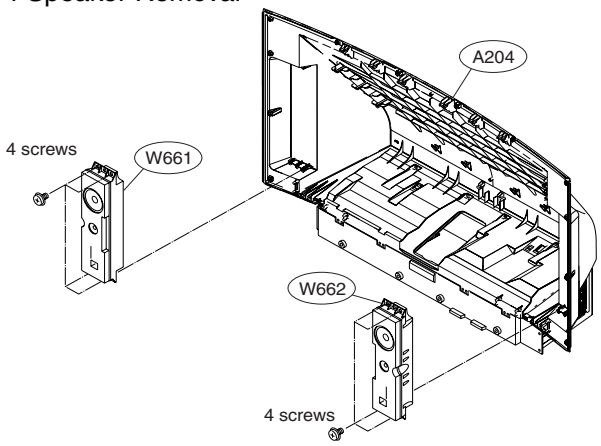


3 Mirror Removal

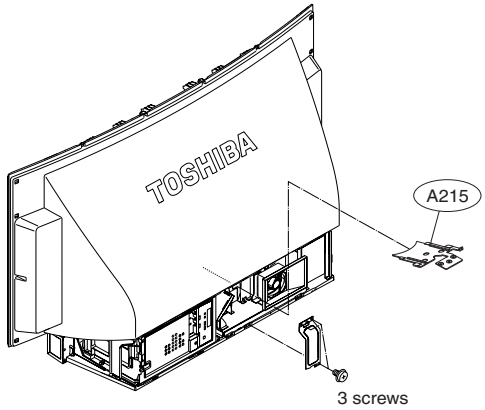


Note ; A205 includes A204, W661 and W662.

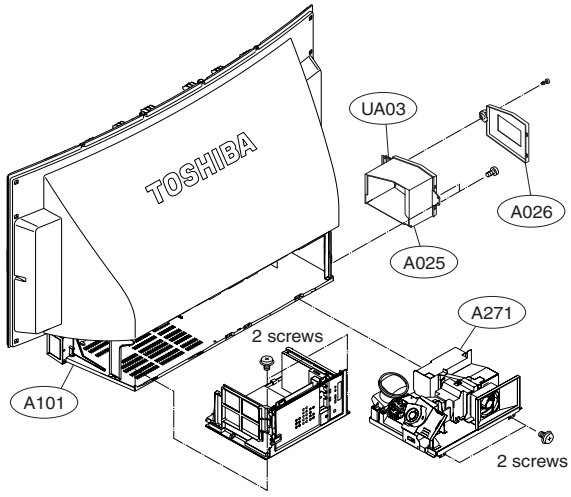
4 Speaker Removal



5 Bracket Removal



6 Optical Engine Removal



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

Model : 46HM84/52HM84/62HM84

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
#1:[46HM84]		
#2:[52HM84]		
#3:[62HM84]		
CAPACITORS		
C101	24797339	ELECTROLYTIO CE04G, 50V 3.3UF M
C102	24665221	ELECTROLYTIC CE04Q, 10V 220UF M 3A
C105	24100102	CERAMIC CHIP, 50V F 1000PF Z
C106	24669479	ELECTROLYTIC, 50V 4.7UF M 3A
C107	24666221	ELECTROLYTIC 04Q, 16V 220UF M 3A
C108	24665221	ELECTROLYTIC CE04Q, 10V 220UF M 3A
C109	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C110	24794101	ELECTROLYTIC, 16V 100UF M
C601	24109122	CERAMIC CHIP, 50V B 1200PF K
C602	24109122	CERAMIC CHIP, 50V B 1200PF K
C603	24073084	ELECTROLYTIC, 50V 4.7UF M 3A
C604	24073084	ELECTROLYTIC, 50V 4.7UF M 3A
C605	24073086	ELECTROLYTIC, 50V 10UF M 3A
C606	24073086	ELECTROLYTIC, 50V 10UF M 3A
C607	24073053	ELECTROLYTIC, 25V 100UF M 3A
C608	24073086	ELECTROLYTIC, 50V 10UF M 3A
C612	24073054	ELECTROLYTIC CE04P 25V 220UF M 3A
C621	24109822	CERAMIC CHIP, 50V B 8200PF K
C622	24109822	CERAMIC CHIP, 50V B 8200PF K
C661	24073084	ELECTROLYTIC, 50V 4.7UF M 3A
C662	24073086	ELECTROLYTIC, 50V 10UF M 3A
C663	24073086	ELECTROLYTIC, 50V 10UF M 3A
C665	24109103	CERAMIC CHIP, 50V B 0.01UF K
C666	24073084	ELECTROLYTIC, 50V 4.7UF M 3A
C667	24794100	ELECTROLYTIC, 16V 10UF M
C668 #1	24105560	CERAMIC CHIP, 50V CH 56PF J
#2	24436560	CERAMIC DISC, 50V SL 56PFJ
#3	24105560	CERAMIC CHIP, 50V CH 56PF J
C669 #1	24105560	CERAMIC CHIP, 50V CH 56PF J
#2	24436560	CERAMIC DISC, 50V SL 56PFJ
#3	24105560	CERAMIC CHIP, 50V CH 56PF J
C680	24073073	ELECTROLYTIC, 35V 2200UF M 3A
C681	24109103	CERAMIC CHIP, 50V B 0.01UF K
C682	24073082	ELECTROLYTIC, 50V 2.2UF M 3A
C683	24073053	ELECTROLYTIC, 25V 100UF M 3A
C684	24795470	ELECTROLYTIC 04G, 25V 47UF M

Location No.	Parts No.	Description
⚠C801	24503004	PLASTIC FILM, AC275V 0.47UF M
⚠C803	24503002	PLASTIC FILM, AC275V 0.22UF M
C805	24092281	CERAMIC DISC, AC250V E 4700PF
C809	24086067	ELECTROLYTIC 692Q 200V 1000UF M 3F
C810	24086067	ELECTROLYTIC 692Q 200V 1000UF M 3F
⚠C811	24092557	CERAMIC DISC, AC250V E 2200PF M
⚠C812	24092557	CERAMIC DISC, AC250V E 2200PF M
⚠C814	24092553	CERAMIC DISC, AC250V B 470PF K
⚠C816	24092555	CERAMIC DISC, AC250V E 1000PF M
C840	24679220	ELECTROLYTIC, 250V 22UF M 3A
C841	24073043	ELECTROLYTIC, 16V 2200UF M 3A
C842	24503041	PLASTIC FILM , 63V 0.1UF J
C843	24092333	CERAMIC DISC, 2KV 100PF K
C845	24073082	ELECTROLYTIC, 50V 2.2UF M 3A
C848	24073039	ELECTROLYTIC, 16V 220UF M 3A
C861	24092342	CERAMIC DISC, 2KV R 560PF K
C862	24503045	PLASTIC FILM, 63V 0.22UF J
C863	24212221	CERAMIC DISC, 50V B 220PF K
C864	24590681	PLASTIC FILM CQ922M 50V 680PF J
C865	24073063	ELECTROLYTIC CE04P 35V 4.7UF M 3A
C866	24820223	PLASTIC FILM, 630V 0.022UF J
C868	24073068	ELECTROLYTIC, 35V 100UF M 3A
C883	24567104	PLASTIC FILM, 50V 0.1UF J
C884	24214331	CERAMIC DISC, 500V B 330PF K
C885	24073191	ELECTROLYTIC CE04P 35V 1500UF M 3A
C886	24214331	CERAMIC DISC, 500V B 330PF K
C887	24676470	ELECTROLYTIC, 100V 47UF M 3A
C888	24214331	CERAMIC DISC, 500V B 330PF K
C889	24073171	ELECTROLYTIC CE04P 25V 820UF M 3A
C890	24214331	CERAMIC DISC, 500V B 330PF K
C891	24073161	ELECTROLYTIC CE04P 16V 3900UF M 3A
C892	24214331	CERAMIC DISC, 500V B 330PF K
C893	24073173	ELECTROLYTIC CE04P 10V 3900UF M 3A
C894	24214331	CERAMIC DISC, 500V B 330PF K
C895	24073075	ELECTROLYTIC CE04P 35V 4700UF M 3A
C898 #1	24503041	PLASTIC FILM , 63V 0.1UF J
#2	24092398	CERAMIC DISC, 25V 0.1UF Z
#3	24503041	PLASTIC FILM , 63V 0.1UF J
C8200	24073067	ELECTROLYTIC CE04P 35V 47UF M 3A
C8201	24503047	PLASTIC FILM, 63V 0.33UF J
C8202	24073169	ELECTROLYTIC CE04P 25V 470UF M 3A

Location No.	Parts No.	Description
C8210	24073172	ELECTROLYTIC CE04P 25V 1000UF M 3A
C8211	24503041	PLASTIC FILM , 63V 0.1UF J
C8212	24214221	CERAMIC DISC, 500V B 220PF K
C8213	24503041	PLASTIC FILM , 63V 0.1UF J
C8214	24617006	ELECTROLYTIC 04CH, 25V 820UF M
C8215	24073138	ELECTROLYTIC CE04P 10V 220UF M 3A
C8220	24073068	ELECTROLYTIC, 35V 100UF M 3A
C8221	24073169	ELECTROLYTIC CE04P 25V 470UF M 3A
C8224	24073087	ELECTROLYTIC, 50V 22UF M 3A
C8225	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8240	24073038	ELECTROLYTIC, 16V 100UF M 3A
C8241	24503047	PLASTIC FILM, 63V 0.33UF J
C8242	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8250 #1	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
#2	24794101	ELECTROLYTIC, 16V 100UF M
#3	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8251	24567334	PLASTIC FILM, 50V 0.33UF J
C8252 #1	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
#2	24073138	ELECTROLYTIC CE04P 10V 220UF M 3A
#3	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8253	24669339	ELECTROLYTIC, 50V 3.3UF M
C8905	24073002	ELECTROLYTIC CE04P 6.3V 220UF M 3A
C8911	24503047	PLASTIC FILM, 63V 0.33UF J
C8912	24503047	PLASTIC FILM, 63V 0.33UF J
C8921	24073141	ELECTROLYTIC CE04P 10V 1000UF M 3A
C8930	24073067	ELECTROLYTIC CE04P 35V 47UF M 3A
C8931	24503047	PLASTIC FILM, 63V 0.33UF J
C8932	24073152	ELECTROLYTIC CE04P 16V 330UF M 3A
C8933	24073069	ELECTROLYTIC CE04P 35V 220UF M 3A
C8940	24073067	ELECTROLYTIC CE04P 35V 47UF M 3A
C8941	24503047	PLASTIC FILM, 63V 0.33UF J
C8942	24073152	ELECTROLYTIC CE04P 16V 330UF M 3A
C8943	24073069	ELECTROLYTIC CE04P 35V 220UF M 3A
CA81	24109183	CERAMIC CHIP, 50V B 18000PF K
CA82	24109183	CERAMIC CHIP, 50V B 18000PF K
CA83	24109102	CERAMIC CHIP, 50V B 1000PF K
CA84	24109183	CERAMIC CHIP, 50V B 18000PF K
CA85	24109183	CERAMIC CHIP, 50V B 18000PF K
CA86	24109183	CERAMIC CHIP, 50V B 18000PF K
CA87	24109183	CERAMIC CHIP, 50V B 18000PF K
CA88	24109102	CERAMIC CHIP, 50V B 1000PF K
CA89	24109183	CERAMIC CHIP, 50V B 18000PF K
CA90	24109183	CERAMIC CHIP, 50V B 18000PF K
CA91	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA92	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA93	24619040	ELEC. CHIP, 16V 10UF M 3A
CA94	24619040	ELEC. CHIP, 16V 10UF M 3A
CA95	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA96	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA97	24105330	CERAMIC CHIP, 50V CH 33PF J
CA98	24105330	CERAMIC CHIP, 50V CH 33PF J
CB01	24794470	ELECTROLYTIC, 16V 47UF M
CB81	24092730	CERAMIC CHIP, 16V B 0.1UF K
CS01	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS02	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS03	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS04	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS05	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS06	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS07	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS08	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS09	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS10	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS11	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS12	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS13	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K

Location No.	Parts No.	Description
CS14	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS15	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS16	24092795	CERAMIC CHIP CK73B 6.3V 2.2UP K
CS25	24109103	CERAMIC CHIP, 50V B 0.01UF K
CS26	24794470	ELECTROLYTIC, 16V 47UF M
CS27	24794220	ELECTROLYTIC, 16V 22UF M
CS28	24794100	ELECTROLYTIC, 16V 10UF M
CS29	24794100	ELECTROLYTIC, 16V 10UF M
CS30	24794100	ELECTROLYTIC, 16V 10UF M
CV01	24092621	CERAMIC CHIP, 10V B 1UF K
CV02	24092621	CERAMIC CHIP, 10V B 1UF K
CV03	24092621	CERAMIC CHIP, 10V B 1UF K
CV04	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CV05	24092621	CERAMIC CHIP, 10V B 1UF K
CV06	24092621	CERAMIC CHIP, 10V B 1UF K
CV10	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CV11	24092621	CERAMIC CHIP, 10V B 1UF K
CV13	24100104	CERAMIC CHIP, 25V F 0.1UF Z @U103
	24794100	ELECTROLYTIC, 16V 10UF M @UV03
CV14	24092621	CERAMIC CHIP, 10V B 1UF K @U103
	24232103	CERAMIC DISC, 50V F 0.01UF Z @UV03
CV15	24100104	CERAMIC CHIP, 25V F 0.1UF Z @U103
	24232103	CERAMIC DISC, 50V F 0.01UF Z @UV03
CV27	24762471	ELECTROLYTIC, 04G 10V 470UF M
CV29	24763101	ELECTROLYTIC, 16V 100UF M
CV30	24092730	CERAMIC CHIP, 16V B 0.1UF K
CV38	24109102	CERAMIC CHIP, 50V B 1000PF K
CV39	24109102	CERAMIC CHIP, 50V B 1000PF K
CV47	24092621	CERAMIC CHIP, 10V B 1UF K
CV70	24794101	ELECTROLYTIC, 16V 100UF M
CV71	24092621	CERAMIC CHIP, 10V B 1UF K
CV72	24794220	ELECTROLYTIC, 16V 22UF M
CV245	24092621	CERAMIC CHIP, 10V B 1UF K
CV246	24092621	CERAMIC CHIP, 10V B 1UF K
CV247	24092621	CERAMIC CHIP, 10V B 1UF K
CV249	24092621	CERAMIC CHIP, 10V B 1UF K
CV250	24092621	CERAMIC CHIP, 10V B 1UF K
CV251	24092621	CERAMIC CHIP, 10V B 1UF K
CV253	24092621	CERAMIC CHIP, 10V B 1UF K
CV254	24092621	CERAMIC CHIP, 10V B 1UF K
CV255	24092621	CERAMIC CHIP, 10V B 1UF K
CY101	24092441	CERAMIC CHIP, 16V F 1UF Z
CY102	24665221	ELECTROLYTIC CE04Q, 10V 220UF M 3A @U101
	24794101	ELECTROLYTIC, 16V 100UF M @U103
CY103	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CY104	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY105	24109103	CERAMIC CHIP, 50V B 0.01UF K @U101
	24100102	CERAMIC CHIP, 50V F 1000PF Z @U103
CY106	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY107	24794100	ELECTROLYTIC, 16V 10UF M
CY108	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CY109	24105101	CERAMIC CHIP, 50V CH 100PF J
CY111	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY112	24105181	CERAMIC CHIP, 50V CH 180PF J
CY113	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY114	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY115	24105390	CERAMIC CHIP, 50V CH 39PF J
CY116	24105470	CERAMIC CHIP, 50V CH 47PF J
CY117	24105180	CERAMIC CHIP, 50V CH 18PF J
CY160	24815393	CERAMIC CHIP, 50V B 39000PF K
CY501	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY502	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY504	24109222	CERAMIC CHIP, 50V B 2200PF K
CY505	24105120	CERAMIC CHIP, 50V CH 12PF J
CY506	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY508	24092730	CERAMIC CHIP, 16V B 0.1UF K

Location No.	Parts No.	Description
CY512	24092463	CERAMIC CHIP, 16V B 0.22UF K
CY513	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY514	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY515	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY516	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY517	24092731	CERAMIC CHIP, 16V B 1UF K
CY524	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY525	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY526	24092730	CERAMIC CHIP, 16V B 0.1UF K
CY538	24761102	ELECTROLYTIC CE04G, 6.3V 1000UF M
CY539	24794471	ELECTROLYTIC, 16V 470UF M
CY540	24794471	ELECTROLYTIC, 16V 470UF M
CY541	24761102	ELECTROLYTIC CE04G, 6.3V 1000UF M
CY582	24105101	CERAMIC CHIP, 50V CH 100PF J
RESISTORS		
R010	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R150	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
R151	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
R152	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R173	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R174	24011273	CHIP, 1/20W 27K OHM J
R264	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R265	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R266	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R286	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R287	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R288	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
R347	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R348	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R601	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R602	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R603	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J
R604	24011122	CHIP, METAL FILM, 1/20W 1.2K OHM J
R609	24011563	CHIP, METAL FILM, 1/20W 56K OHM J
R610	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R611	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R612	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
R613	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R614	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R615	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R616	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R621	24011391	CHIP, 1/20W 390 OHM J
R622	24011391	CHIP, 1/20W 390 OHM J
R626	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R627	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R661	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R662	24011333	CHIP, METAL FILM, 1/20W 33K OHM J
R663	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R665	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R666	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R667	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R668	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R671	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R672	24011333	CHIP, METAL FILM, 1/20W 33K OHM J
R673	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
R674	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R676	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R677	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
R681	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
R682	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R683	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R684	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R687	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R688	24011224	CHIP, METAL FILM, 1/20W 220K OHM J
R693	24000445	CHIP JUMPER, 1608TYPE

Location No.	Parts No.	Description
R697	24553561	OXIDE METAL FILM, 1W 560 OHM J
R698	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R699	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R810	24568479	CERAMIC COVERED, 7W 4.7 OHM J
R811	24007061	CERAMIC COVERED, 2W 1.8 OHM K
R840	24552562	OXIDE METAL FILM, 1/2W 5.6K OHM J
R841	24366102	CARBON FILM, 1/6W 1K OHM J
R842	24376563	CARB0N FILM, 1/2W 56K OHM J
R843	24376563	CARB0N FILM, 1/2W 56K OHM J
R844	24366103	CARBON FILM, 1/6W 10K OHM J
R845	24366102	CARBON FILM, 1/6W 1K OHM J
R846	24366471	CARBON FILM, 1/6W 470 OHM J
R847	24366473	CARBON FILM, 1/6W 47K OHM J
R848	24366102	CARBON FILM, 1/6W 1K OHM J
R849	24552470	OXIDE METAL FILM, 1/2W 47 OHM J
R850	24366103	CARBON FILM, 1/6W 10K OHM J
R860	24382101	OXIDE METAL FILM, 1W 100 OHM J
R861	24383333	OXIDE METAL FILM, 2W 33K OHM J
R862	24019463	METAL PLATE RK99 2W R22 J
R863	24019461	METAL PLATE, 2W 0.15 OHM J
R864	24321828	METAL FILM, 1/2W 0.82 OHM J
R865	24381221	OXIDE METAL FILM, 1/2W 220 OHM J
R866	24366681	CARBON FILM, 1/6W 680 OHM J
R867	24366152	CARBON FILM, 1/6W 1.5K OHM J
R868	24555473	METAL OXIDE FILM B 3W 47K J
R869	24366152	CARBON FILM, 1/6W 1.5K OHM J
R870	24366154	CARBON FILM, 1/6W 150K OHM J
R881	24366222	CARBON FILM, 1/6W 2.2K OHM J
R882	24366471	CARBON FILM, 1/6W 470 OHM J
R885	24366102	CARBON FILM, 1/6W 1K OHM J
R886	24000525	METAL FILM, 1/4W 4.7K OHM F
R887	24367683	CARBON FILM, 1/6W 68K OHM G
R888	24000525	METAL FILM, 1/4W 4.7K OHM F
R889	24383222	OXIDE METAL FILM, 2W 2.2K OHM J
R891	24555331	OXIDE METAL FILM, 3W 330 OHM J
R892	24555331	OXIDE METAL FILM, 3W 330 OHM J
⚠ R899	24005014	METAL FILM, 1W 8.2M OHM J
R8200	24367390	CARBON FILM 1/6W 390 G
R8210	24000147	METAL FILM, 1/4W 470 OHM F
R8211	24000219	METAL FILM 1/4W 10 F
R8220	24367390	CARBON FILM 1/6W 390 G
R8222	24367820	RESISTER, CARBON FILM, 1/6W 82 OHM G
R8240	24000366	METAL FILM, 1/4W 2.2K OHM F
R8241	24000360	METAL FILM, 1/4W 1.2K OHM F
R8242 #1	24367101	CARBON FILM, 1/6W 100 OHM G
#2	24367820	CARBON FILM, 1/6W 82 OHM G
#3	24367101	CARBON FILM, 1/6W 100 OHM G
R8250	24000145	METAL FILM, 1/4W 330 OHM F
R8251	24000145	METAL FILM, 1/4W 330 OHM F
R8252	24367392	CARBON FILM, 1/6W 3.9K OHM G
R8902	24366333	CARBON FILM, 1/6W 33K OHM J
R8903	24366333	CARBON FILM, 1/6W 33K OHM J
R8904	24366472	CARBON FILM, 1/6W 4.7K OHM J
R8905	24366681	CARBON FILM, 1/6W 680 OHM J
R8908	24366104	CARBON FILM, 1/6W 100K OHM J
R8910	24366472	CARBON FILM, 1/6W 4.7K OHM J
R8911	24366103	CARBON FILM, 1/6W 10K OHM J
R8912	24366223	CARBON FILM, 1/6W 22K OHM J
R8913	24366334	CARBON FILM, 1/6W 330K OHM J
R8914	24366223	CARBON FILM, 1/6W 22K OHM J
R8915	24366102	CARBON FILM, 1/6W 1K OHM J
R8931	24367123	CARBON FILM, 1/6W 12K OHM G
R8932	24367152	CARBON FILM, 1/6W 1.5K OHM G
R8934	24367472	CARBON FILM, 1/6W 4.7K OHM G
R8941	24367123	CARBON FILM, 1/6W 12K OHM G
R8942	24367152	CARBON FILM, 1/6W 1.5K OHM G

Location No.	Parts No.	Description
R8944	24367472	CARBON FILM, 1/6W 4.7K OHM G
R8950	24366103	CARBON FILM, 1/6W 10K OHM J
R8951	24366103	CARBON FILM, 1/6W 10K OHM J
RA71	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
RA72	24011153	CHIP, METAL FILM, 1/2OW 15K OHM J
RA73	24011273	CHIP, 1/20W 27K OHM J
RA75	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
RA76	24011153	CHIP, METAL FILM, 1/2OW 15K OHM J
RA77	24011114	CHIP, METAL FILM, 1/20W 110K OHM J
RA78	24000445	CHIP JUMPER, 1608TYPE
RA79	24000445	CHIP JUMPER, 1608TYPE
RA81	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA82	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA84	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA85	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA86	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA87	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA89	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA90	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA91	24011470	CHIP, METAL FILM, 1/20W 47 OHM J
RA92	24011470	CHIP, METAL FILM, 1/20W 47 OHM J
RA93	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA94	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RA95	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RB15	24366471	CARBON FILM, 1/6W 470 OHM J
RB19	24366470	CARBON FILM, 1/6W 47 OHM J
RB81	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RB82	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RB83	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB84	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RB87	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB88	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB89	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB90	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB92	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RB93	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS01	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS02	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS03	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS04	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS05	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS06	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS07	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS08	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS09	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS10	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS11	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS12	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS13	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS14	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS15	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS16	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS21	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS22	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS23	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS24	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS27	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS28	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS29	24011682	CHIP, METAL FILM, 1/20W 6.8K OHM J
RS30	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RS31	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RS32	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS33	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS34	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RS35	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS36	24011102	CHIP, METAL FILM, 1/20W 1K OHM J

Location No.	Parts No.	Description
RS37	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RS38	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RV001	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RV002	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV003	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RV004	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV005	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RV006	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV007	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RV008	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV009	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV01	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV03	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV06	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV07	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RV08	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV09	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV10	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV11	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV12	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV14	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RV15	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV17	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV19	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV20	24366750	CARBON FILM, 1/6W 75 OHM J
RV21	24366750	CARBON FILM, 1/6W 75 OHM J @UV03
	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J @U103
RV22	24366750	CARBON FILM, 1/6W 75 OHM J @UV03
	24011101	CHIP, METAL FILM, 1/20W 100 OHM J @U103
RV23	24366101	CARBON FILM, 1/6W 100 OHM J @UV03
	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J @U103
RV24	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RV32	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RV33	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RV34	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RV35	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV36	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV37	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV38	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RV40	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV41	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV42	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV43	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV61	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV85	24366471	CARBON FILM, 1/6W 470 OHM J
RV86	24366471	CARBON FILM, 1/6W 470 OHM J
RV89	24011680	CHIP, METAL FILM, 1/20W 68 OHM J
RV147	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV148	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV323	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV324	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV325	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV330	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV331	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV332	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV333	24011181	CHIP, METAL FILM, 1/20W 180 OHM J
RV334	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV335	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RV346	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY101	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY102	24011221	CHIP, METAL FILM, 1/20W 220 OHM J
RY103	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY104	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY105	24011821	CHIP, 1/20W 820 OHM J
RY106	24000445	CHIP JUMPER, 1608TYPE
RY107	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J

Location No.	Parts No.	Description
RY109	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RY110	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY160	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RY161	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY501	24011303	CHIP, METAL FILM, 1/20W 30K OHM J
RY502	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY504	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY505	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RY507	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY508	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY509	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RY510	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY511	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY512	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY513	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY516	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RY517	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RY518	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RY519	24000445	CHIP JUMPER, 1608TYPE
RY520	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY521	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY523	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY524	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY525	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY526	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY527	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY528	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RY529	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY530	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY531	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY532	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY533	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY534	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY535	24011330	CHIP, 1/20W 33 OHM J
RY536	24011330	CHIP, 1/20W 33 OHM J
RY541	24011392	CHIP, 1/20W 3.9K OHM J
RY542	24011392	CHIP, 1/20W 3.9K OHM J
RY543	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY545	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY548	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY550	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RY551	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RY552	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY560	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RY561	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RY573	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY575	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY576	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RY578	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RY579	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY580	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY582	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RY583	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RY584	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY585	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY586	24011330	CHIP, 1/20W 33 OHM J
RY587	24011330	CHIP, 1/20W 33 OHM J
RY588	24011330	CHIP, 1/20W 33 OHM J
RY589	24000445	CHIP JUMPER, 1608TYPE
RY590	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RY591	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY592	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RY593	24011330	CHIP, 1/20W 33 OHM J
RY594	24011330	CHIP, 1/20W 33 OHM J
RY595	24011330	CHIP, 1/20W 33 OHM J
RY596	24000445	CHIP JUMPER, 1608TYPE

Location No.	Parts No.	Description
COIL & TRANSFORMERS		
L101	23289845	COIL, PEAKING, TRF4680AT
L103	23289844	COIL, PEAKING, TRF4470AT
L840	23280019	COIL, PEAKING, TRF4330AZ
L841	23103145	FERRITE CHOKE, TEM2011AA
L861	23103145	FERRITE CHOKE, TEM2011AA
L862	23103775	COIL, FERRITE CHOKE, TEM2014
L881	23103145	FERRITE CHOKE, TEM2011AA
L882	23103145	FERRITE CHOKE, TEM2011AA
L883	23103145	FERRITE CHOKE, TEM2011AA
L884	23103145	FERRITE CHOKE, TEM2011AA
L885	23103145	FERRITE CHOKE, TEM2011AA
L886	23103145	FERRITE CHOKE, TEM2011AA
L888	23248321	COIL, CHOKE 15X23H 22MMH 4.2A TLN3462AH
L890	23248292	COIL, CHOKE, TLN3499GH
L891	23248292	COIL, CHOKE, TLN3499GH
L892	23248292	COIL, CHOKE, TLN3499GH
L893	23248213	COIL, CHOKE, TLN3481AH
L895	23248247	COIL, CHOKE, TLN3499AH
L896	23280019	COIL, PEAKING, TRF4330AZ
L896A #2	23960136	ADHESIVE, SILICONE, TSE3843-W
L8210	23280019	COIL, PEAKING, TRF4330AZ
L8211	23248358	COIL, CHOKE EI22 100MMHK TLN3540AH
L8213	23248213	COIL, CHOKE, TLN3481AH
L8930	23248292	COIL, CHOKE, TLN3499GH
L8931	23248292	COIL, CHOKE, TLN3499GH
L8940	23248292	COIL, CHOKE, TLN3499GH
L8941	23248292	COIL, CHOKE, TLN3499GH
LV13	23246253	INDUCTOR, CHIP 10MMH K COLTRF4100CN
LV20	23238705	COIL, PEAKING, TRF4560AJ
LY012	23246253	INDUCTOR, CHIP 10MMH K COLTRF4100CN
LY100	23246223	COIL, CHIP INDUCTOR, TRF4330CG
LY101	23248296	COIL, CHOKE @U101
	23103827	INDUCTOR, BEAD, TEM2120M @U103
LY102	23238506	COIL, PEAKING, TRF4229AJ @U101
	23103827	INDUCTOR, BEAD, TEM2120M @U103
LY103	23238506	COIL, PEAKING, TRF4229AJ @U101
	23103230	INDUCTOR, BEAD, TEM2134AD @U103
LY104	23246219	COIL, CHIP INDUCTOR, TRF4150CG
LY105	23246222	COIL, CHIP INDUCTOR, TRF4270CG
LY112	23103230	INDUCTOR, BEAD, TEM2134AD
LY501	23246253	INDUCTOR, CHIP 10MMH K COLTRF4100CN
LY503	23246253	INDUCTOR, CHIP 10MMH K COLTRF4100CN
⚠T801	23211765	COIL, LF LH35V TRF3239AH
⚠T802	23211776	COIL, LINE FILTER 37X44H 6.8MH TRF3197AH
⚠T840	23217431	TRANSFORMER, CONVERTER, TPW3425AH
⚠T862	23217682	TRANSFORMER, CONVERTER TPW3553AS
SEMICONDUCTORS		
Q151	23205005	TRANSISTOR, KTA2014Y
Q152	23205006	TRANSISTOR, KTC4075Y
Q172	23205006	TRANSISTOR, KTC4075Y
Q601	23009603	IC, BTL AUDIO AMP AN7580
Q612	23205005	TRANSISTOR, KTA2014Y
Q613	23205006	TRANSISTOR, KTC4075Y
Q614	23205236	TRANSISTOR, NPN R1=4.7K R2=47K KRC106S (SOT-23)
Q661	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
Q662	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
Q663	23906596	IC, BA4558
Q664	23205246	TRANSISTOR, PNP R1=R2=47K KRA104S (SOT-23)
Q681	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
Q682	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
Q801	23135037	IC, STR-F6268S
Q840	23906133	IC, MIP280
⚠Q841	23000823	IC, PHOTO COUPLER, TLP421F(GR)
⚠Q842	23000823	IC, PHOTO COUPLER, TLP421F(GR)

Location No.	Parts No.	Description
Q845	23314965	TRANSISTOR, KTC3198 Y
Q846	23314965	TRANSISTOR, KTC3198 Y
Q847	23314965	TRANSISTOR, KTC3198 Y
⚠ Q862	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q881	23000701	IC, NJM431L
Q8200	23085050	IC, +12V 2% REG. TO220 SI-3120J(LF1101)
Q8210	23000806	IC, SI-8033SS
Q8220	23904163	IC, SI-3090CA
Q8240	23009998	IC, ADJ REG. VO=1.5V-12.0V BA00JC5WT-V5
Q8250	23000469	IC, PQ5EV3
Q8251	70200563	IC, RESET VS=2.9V PST9129 PST9129
Q8901	23314965	TRANSISTOR, KTC3198 Y
Q8902	23314965	TRANSISTOR, KTC3198 Y
Q8904	23314962	TRANSISTOR, KTA1266 Y
Q8911	23314965	TRANSISTOR, KTC3198 Y
Q8912	23314965	TRANSISTOR, KTC3198 Y
Q8930	23009998	IC, ADJ REG. VO=1.5V-12.0V BA00JC5WT-V5
Q8940	23009998	IC, ADJ REG. VO=1.5V-12.0V BA00JC5WT-V5
Q8950	23119747	IC, OPE AMP, TA75358P
QA91	23900992	SENSOR, TOUCH QT2C01-AS QT2C01-AS
QA92	23900992	SENSOR, TOUCH QT2C01-AS QT2C01-AS
QA93	23000283	IC, R1121N
QB81	23314204	TRANSISTOR, 2SC2412K,Q
QB83	70200849	IC, DUAL COMPARATOR BA10393F
QB84	23314204	TRANSISTOR, 2SC2412K,Q
QS01	23009916	IC, A S/W SSOP-36A MM1631AJBE
QS02	23314993	TRANSISTOR, 2SC4081 Q
QS03	23314993	TRANSISTOR, 2SC4081 Q
QS04	23314993	TRANSISTOR, 2SC4081 Q
QS05	23205246	TRANSISTOR, PNP R1=R2=47K KRA104S (SOT-23)
QS06	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
QS07	23205204	TRANSISTOR, NPN VEBO=25V KTC2875B-RTK
QV004	23314993	TRANSISTOR, 2SC4081 Q
QV005	23314993	TRANSISTOR, 2SC4081 Q
QV006	23314993	TRANSISTOR, 2SC4081 Q
QV007	23314993	TRANSISTOR, 2SC4081 Q
QV008	23314993	TRANSISTOR, 2SC4081 Q
QV009	23314993	TRANSISTOR, 2SC4081 Q
QV01	23009940	IC, VIDEO S/W MM1630AQ
QV48	23114528	TRANSISTOR, 2SC1740S
QV91	23314994	TRANSISTOR, 2SA1576A106
QY100	23906515	IC, TC90A45F
QY101	23314993	TRANSISTOR, 2SC4081 Q
QY102	23314993	TRANSISTOR, 2SC4081 Q
QY103	23314994	TRANSISTOR, 2SA1576A106
QY160	23205006	TRANSISTOR, KTC4075Y
QY501	23009929	IC, VCD NTSC SOP30 TA1383FG(DRY,EL)
QY502	23205014	TRANSISTOR, 2SC4667-O
QY503	23314994	TRANSISTOR, 2SA1576A106
QY504	23314994	TRANSISTOR, 2SA1576A106
QY506	23314993	TRANSISTOR, 2SC4081 Q
QY507	23314993	TRANSISTOR, 2SC4081 Q
QY508	23314993	TRANSISTOR, 2SC4081 Q
QY509	23314993	TRANSISTOR, 2SC4081 Q
QY511	23314994	TRANSISTOR, 2SA1576A106
QY512	23314994	TRANSISTOR, 2SA1576A106
QY513	23314994	TRANSISTOR, 2SA1576A106
QY514	23314994	TRANSISTOR, 2SA1576A106
QY515	23314994	TRANSISTOR, 2SA1576A106
QY516	23314994	TRANSISTOR, 2SA1576A106
QY518	23314993	TRANSISTOR, 2SC4081 Q
QY522	23314993	TRANSISTOR, 2SC4081 Q
D601	23316231	DIODE, 1SS355
D602	23316231	DIODE, 1SS355
D603	23316231	DIODE, 1SS355
D604	23316231	DIODE, 1SS355

Location No.	Parts No.	Description
D605	23316231	DIODE, 1SS355
D606	23316231	DIODE, 1SS355
D607	23316231	DIODE, 1SS355
D608	23316231	DIODE, 1SS355
D609	23316231	DIODE, 1SS355
D611	23316231	DIODE, 1SS355
D612	23316231	DIODE, 1SS355
D613	23316231	DIODE, 1SS355
D614	23316231	DIODE, 1SS355
D615	23316231	DIODE, 1SS355
D616	23316231	DIODE, 1SS355
D617	23316231	DIODE, 1SS355
D628	23316597	DIODE, ZENER, MA8120-M
D801	23316393	DIODE, VRM=600V IO=6A SIP D5SB60, 4009 F05
D840	23357207	DIODE, LN1WBA60
D841	23316673	DIODE, ZENER, MTZJ5.6C
D842	23316665	DIODE, ZENER, MTZJ4.7A
D843	23357366	DIODE, FR105-B5
D844	23316673	DIODE, ZENER, MTZJ5.6C
D845	23118859	DIODE, 1SS133
D846	23118633	DIODE, ZENER, RD3.0ES B2
D847	23118633	DIODE, ZENER, RD3.0ES B2
D848	23118859	DIODE, 1SS133
D849	23118859	DIODE, 1SS133
D850	23118513	DI0DE, ZENER, RD11ESA B3
D861	23316672	DIODE, ZENER, MTZJ5.6B
D863	23118859	DIODE, 1SS133
D864	23357366	DIODE, FR105-B5
D865	23118859	DIODE, 1SS133
D866	23316381	DIODE, RU1P
D867	23316754	DIODE, ZENER, MTZJ33B
D883	23316184	DIODE, FML-G12S
D884	23357366	DIODE, FR105-B5
D885	23316714	DIODE, RL2Z
D886	23357042	DIODE, FMX-12S(023-108)
D887 #1	23316768	DIODE, FMB-26L
#2	23357042	DIODE, FMX-12S(023-108)
#3	23316768	DIODE, FMB-26L
D888	23357353	DIODE, FML-G22S
D894	23316677	DIODE, ZENER, MTZJ6.8A
D895	23316677	DIODE, ZENER, MTZJ6.8A
D896	23316677	DIODE, ZENER, MTZJ6.8A
D897	23316677	DIODE, ZENER, MTZJ6.8A
D898	23316677	DIODE, ZENER, MTZJ6.8A
⚠ D899	24019485	VARISTOR, TNR10V431K
D8200 #1	23118859	DIODE, 1SS133
#3	23118859	DIODE, 1SS133
D8210	23118213	DIODE, RK44,
D8211	23316666	DIODE, ZENER, MTZJ4.7B
D8902	23118859	DIODE, 1SS133
D8903	23118859	DIODE, 1SS133
D8904	23316673	DIODE, ZENER, MTZJ5.6C
D8905	23316673	DIODE, ZENER, MTZJ5.6C
D8911	23316673	DIODE, ZENER, MTZJ5.6C
D8912	23316673	DIODE, ZENER, MTZJ5.6C
D8913	23316673	DIODE, ZENER, MTZJ5.6C
D8914	23118859	DIODE, 1SS133
D8915	23118859	DIODE, 1SS133
D8922	23118530	DIODE, ZENER, RD5.6ESA B1
D8930	23118859	DIODE, 1SS133
D8931 #1	23118859	DIODE, 1SS133
#3	23118859	DIODE, 1SS133
D8940	23118859	DIODE, 1SS133
D8941 #1	23118859	DIODE, 1SS133
#3	23118859	DIODE, 1SS133
D8950	23118528	DIODE, ZENER, RD5.6ESA B3

Location No.	Parts No.	Description
D8951	23118528	DIODE, ZENER, RD5.6ESA B3
DB03	23358522	DIODE, LED, SIR-56SB3F
DB81	23358584	LED, LAMP RED SML-810UTT86
DB82	23358585	LED, LAMP GREEN SML-810MTT86
DV07	23316577	DIODE, ZENER, MA8068-M
DV14	23316577	DIODE, ZENER, MA8068-M
KB01	23000852	IC, REMOTE PHOTO RECEIVER, PIC-37043TE2
MISCELLANEOUS		
B112	23059129	PIECE COVER
BB10	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5
BB11	23713013	CONNECTOR, SOCKET, B-B 16P 1.5
BB20	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5
BB21	23713013	CONNECTOR, SOCKET, B-B 16P 1.5
BB70	23713309	PLUG , TAC-A46P-B1
BB71	23903159	SOCKET, TAC A46X B1
⚠ F801	23144684	FUSE, CARTRIDGE 5X20 125V 8.0A
F801A	23165433	FUSE HOLDER, 5.2 SOC
⚠ F840	23144704	FUSE, AXIAL 125V 200MA
⚠ F860	23144714	FUSE, AXIAL 125V 4.0A
⚠ F880	23144714	FUSE, AXIAL 125V 4.0A
⚠ F881	23144706	FUSE, AXIAL 125V 500MA
⚠ F882	23144714	FUSE, AXIAL 125V 4.0A
⚠ F883	23144715	FUSE, AXIAL 125V 5.0A
⚠ F884	23144715	FUSE, AXIAL 125V 5.0A
⚠ F899	23144691	FUSE, CARTRIDGE 5X20 250V 2.0A
F899A	23165433	FUSE HOLDER, 5.2 SOC
⚠ F8210	23144709	FUSE, AXIAL 125V 1.5A
G101	24011151	CHIP, METAL FILM, 1/20W 150 OHM J
G102	24011151	CHIP, METAL FILM, 1/20W 150 OHM J
GJ105	24000445	CHIP JUMPER, 1608TYPE
GR103	24000445	CHIP JUMPER, 1608TYPE
H002	23148082	IF MODULE, US BUFFER 6M_TRAP MVUS51A
H003	23124087	ANTENNA SWITCH, RSU135X1, 2I3O BUNPAI US
H003A	23740989	NUT, F-CONNECTOR 2H BS
JR001	24000445	CHIP JUMPER, 1608TYPE
JR002	24000445	CHIP JUMPER, 1608TYPE
JR003	24000445	CHIP JUMPER, 1608TYPE
JR004	24000445	CHIP JUMPER, 1608TYPE
JR005	24000445	CHIP JUMPER, 1608TYPE
JR006	24000445	CHIP JUMPER, 1608TYPE
JR007	24000445	CHIP JUMPER, 1608TYPE
JR008	24000445	CHIP JUMPER, 1608TYPE
JR009	24000445	CHIP JUMPER, 1608TYPE
JR010	24000445	CHIP JUMPER, 1608TYPE
JR011	24000445	CHIP JUMPER, 1608TYPE
JR012	24000445	CHIP JUMPER, 1608TYPE
JR013	24000445	CHIP JUMPER, 1608TYPE
JR014	24000445	CHIP JUMPER, 1608TYPE
M811A	23103839	FERRITE CORE, TFE1012
MA01	23389219	CABLE, FFC P1.25-15-98 P1.25-15-98
MV01	23368868	CABLE, LVDS 300MM LVDS
MV04	23389218	CABLE, FFC P1.25-26-140
MX18	23389220	CABLE, FFC P1.25-11-365
MX19	23389221	CABLE, FFC P1.25-17-410
P105	23368578	CONNECTOR, PLUG 4P, 2.5MM G JST-EH, B4B-EH-F1-TV4
⚠ P800	23368013	CONNECTOR, PLUG, 2P 11.88MM W VT-JST
⚠ P801	23372117	POWER CORD, U/C 125V10A HSV 5 CMC-02P 5
P805	23164965	CONNECTOR, PLUG 4P, W-P3504-#02
P811A	23368274	PLUG, 2P 3.96MM VH-JST VH
P891	23367068	CONNECTOR, PLUG 8P, 2.5MM G JST-EH B8B-EH-F1-TV4
P892	23367073	CONNECTOR, PLUG 13P
P901	23368577	CONNECTOR, PLUG, 3P 2.5MM G JST-EH, B3B-EH-F1-TV4
P902A	23164563	CONNECTOR, PLUG 3P
P903	23368578	CONNECTOR, PLUG 4P, 2.5MM G JST-EH, B4B-EH-F1-TV4
P906	23367070	PLUG , NP 2.5MM G JST-EH B10B-EH-F1A

Location No.		Parts No.	Description
P907		23367072	CONNECTOR, PLUG, NP 2.5MM G JST-EH, B12B-EH-F1A
PA01		23713240	CONNECTOR, 15FE-BT-VK-N JST 15FE-BT-VK-N
PB22		23368578	CONNECTOR, PLUG 4P, 2.5MM G JST-EH, B4B-EH-F1-TV4
PJ60		23368579	CONNECTOR, PLUG 5P, 2.5MM G JST-EH, B5B-EH-F1-TV4
PJ61		23367071	CONNECTOR, PLUG, NP 2.5MM G JST-EH, B11B-EH-F1A
PJ63		23368579	CONNECTOR, PLUG 5P, 2.5MM G JST-EH, B5B-EH-F1-TV4
PJ64		23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4
PV01		23023132	JACK, PIN 2S6P SMK LAP5030-0111GC
PV02		23365819	JACK, 1S3P @UV03
		23023205	JACK, PIN 10P SMK KARI2 @U103
PV03		23023211	JACK, PIN 7P SMK KARI04
PV04		23713282	CONNECTOR, 26FE-ST-VK-N 26FE-ST-VK-N
PV13		23367069	CONNECTOR, PLUG, NP 2.5MM G JST-EH, B9B-EH-F1A
PV14		23368587	CONNECTOR, PLUG, 8P 2.5MM W EH-JST, S8B-EH
PX18		23713270	CONNECTOR, 11FE-ST-VK-N 11FE-ST-VK-N
PX19		23713110	CONNECTOR, FE-ST-VK-N 17P JST FE-ST-VK-N 17PR
Q893B		70391355	SCREW, BIND HEAD TAP-TITE B, BITTB 3X8 SZN
Q894B		70391355	SCREW, BIND HEAD TAP-TITE B, BITTB 3X8 SZN
⚠ S810		70145484	SWITCH, SPVF11
SK01	#1	23405384	OPTICAL ENGINE, PJ-TB25-46S (Incl. SK03-SK08)
	#2	23405385	OPTICAL ENGINE, PJ-TB25-52S (Incl. SK03-SK08)
	#3	23405386	OPTICAL ENGINE, PJ-TB25-62S (Incl. SK03-SK08)
SK02		23587201	SERVICE KIT, SHP66 LAMP UNIT
SK03		23122468	POWER UNIT, RPB-4434ZA
SK04		23762354	PC BOARD ASSY, SENSOR UNIT PD1823
SK05		23762355	PC BOARD ASSY, MOTOR UNIT PD1824
SK06		23125920	FAN, D09A-12PS6 01B(K)
SK07		23125919	FAN, D07F-12SS18 01B(EX)
SK08		23144199	BREAKER, US-603UXTLQE-H
⚠ SR81		23146574	RELAY, DLS5D1-O(M) 0.15W
⚠ SR82		23146564	RELAY, DC12V, TV5, DG-3
W661		23351244	SPEAKER, SPBOX(L) 8-OHM 20W SPK-1455AM
W662		23351245	SPEAKER, SPBOX(R) 8-OHM 20W SPK-1456AM
XY501		23153961	CRYSTAL, 3.58MHZ
XY502		23153721	CERAMIC RESONATOR, 503KHZ
PC BOARD ASSEMBLIES			
∗ U101		23762066	PC BOARD ASSY, IF AUDIO ACIN PU PD1775
∗ U103		23762089	PC BOARD ASSY, BACK AV PU PD1774A
∗ U802		23762085	PC BOARD ASSY, MAIN POWER PU PD1773A-1
∗ UA02		23762087	PC BOARD ASSY, REMORT SENSOR PU PD1773A-3
∗ UA03		23762088	PC BOARD ASSY, DOOR SWITCH PU PD1773A-4
∗ UA06		23761341	PC BD ASSY, FRONT KEY 57HL83 PU PD1503
∗ UD02	#1	23148133	SCALER 46HM84, B910PD1870C1
	#2	23148131	OPSS SCALER 52HM84, B910PD1870A1
	#3	23148132	SCALER 62HM84, B910PD1870B1
∗ UV02		23148055	SCAN CONVERTER MODUL, 03DVI MHDM01
∗ UV03		23762086	PC BOARD ASSY, FRONT AV PU PD1773A-2
TUNER			
⚠ H001		23321482	TUNER, US181CH IIC PH 5V PANA ELA52LX5
⚠ HY01		23321480	TUNER, TIF US IIC PH 181CH 5V ENG36A18GF
ACCESSORIES			
A701	#1	23067699	CARTON, CARTON
	#2	23067697	CARTON, CARTON
	#3	23067698	CARTON, CARTON
A703	#1	23946773	PACKING, TOP PACKING
	#2	23946771	PACKING, TOP PACKING
	#3	23946772	PACKING, TOP PACKING
A708	#1,#2	23946768	PACKING, BOTTOM PACKING
	#3	23946769	PACKING, BOTTOM PACKING
A709	#1	23067696	CARTON, BASE TRAY
	#2	23067694	CARTON, BASE TRAY
	#3	23067695	CARTON, BASE TRAY
A710	#1	23946776	PACKING, SUPPORT POST

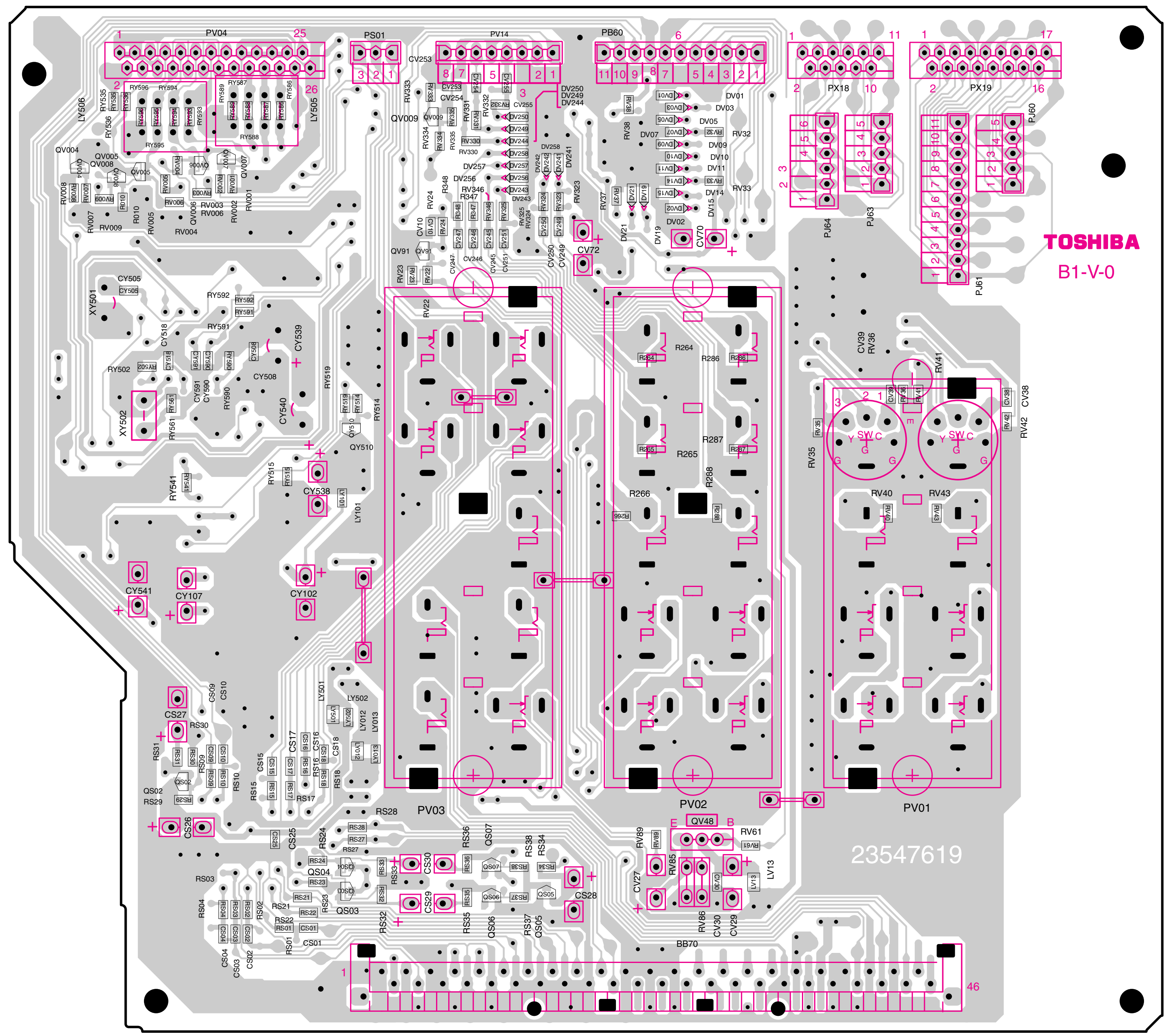
Location No.		Parts No.	Description
	#2	23946774	PACKING, SUPPORT POST
	#3	23946775	PACKING, SUPPORT POST
⚠ K912		23306497	REMOCON HAND UNIT IR, CTVUSA
⚠ Y101E		23566346	OWNERS MANUAL, ENGLISH
⚠ Y101F		23566347	OWNERS MANUAL, FRENCH
Y102		23589650	SHEET, IMPORTANT NOTES

CABINET PARTS

⚠ A025		23532769	COVER, LAMP TUNNEL PURCHASE ASY
⚠ A026		23428292	DOOR, DOOR LAMP PURCHASE ASSY
⚠ A101		23532766	COVER, BASE PURCHASE ASSY
⚠ A201	#1	23532767	COVER, BEZEL PURCHASE ASSY
⚠	#2	23532781	COVER, BEZEL PURCHASE ASSY
⚠ A204	#1	23532764	COVER, BACK COVER
	#2	23532684	COVER, BACK COVER
	#3	23532763	COVER, BACK COVER
A205	#1	23532783	COVER, BACKCOVER PURCHASE ASSY
⚠	#2	23532782	COVER, BACKCOVER PURCHASE ASSY
⚠	#3	23532784	COVER, BACKCOVER PURCHASE ASSY
⚠ A215		23940083	PIECE, PIECE ENCLOSURE,DLE
A220		23451976	PUSH CATCH, CLICK
A222	#1,#2	23532770	COVER, PEDESTAL PURCHASE ASSY
⚠	#3	23532885	COVER, PEDESTAL ASSY
⚠ A225		23940084	PIECE, STRIKER
A227	#1,#2	23450809	PANEL, PIECE TRIM TOUCH PAD
	#3	23450812	PANEL, PIECE TRIM TOUCH PAD
A231	#3	23940100	PIECE, PIECE SIDE RIGHT
A232	#3	23940099	PIECE, PIECE SIDE LEFT
A271	#1	23405378	OPTICAL ENGINE, PJ-TB25-46 (Incl. SK02-SK08)
⚠	#2	23405372	OPTICAL ENGINE, PJ-TB25-52 (Incl. SK02-SK08)
⚠	#3	23405379	OPTICAL ENGINE, PJ-TB25-62 (Incl. SK02-SK08)
⚠ A278		23084267	BRACKET, SPEED CLIP
A305		23717197	SCREW, THUMB SCREW
A306		23717198	SCREW, THUMB SCREW RETAINER
A333		23450837	PANEL, A/V MOUNT PURCHASE ASSY
A401		23532768	COVER, REAR COVER PURCHASE ASY
A421		23532738	COVER, REAR COVER,DLE
A422		23084265	BRACKET, VENT, REAR DLE
A516		23717192	SCREW, SCREW, AV BOARD
A721		23943628	PLYETHLENE COVERING 46GM88T
K501	#1	23311074	SCREEN, 46K4M LENTICULAR SHEET
	#2	23311071	SCREEN, 52K4ML LENTICULAR SHEET
	#3	23311080	SCREEN, 62K4M LENTICULAR SHEET
K502	#1	23311075	SCREEN, 46K4M FRESNEL SHEET
	#2	23311072	SCREEN, 52K4M FRESNEL SHEET
	#3	23311081	SCREEN, 62K4MF FRESNEL SHEET
K601	#1	23405382	MIRROR, 46C4M3 1047/503*536*3
	#2	23405371	MIRROR, 52C4M3 1197/578*612*3
	#3	23405383	MIRROR, 62C4M3 1426/695*725*3

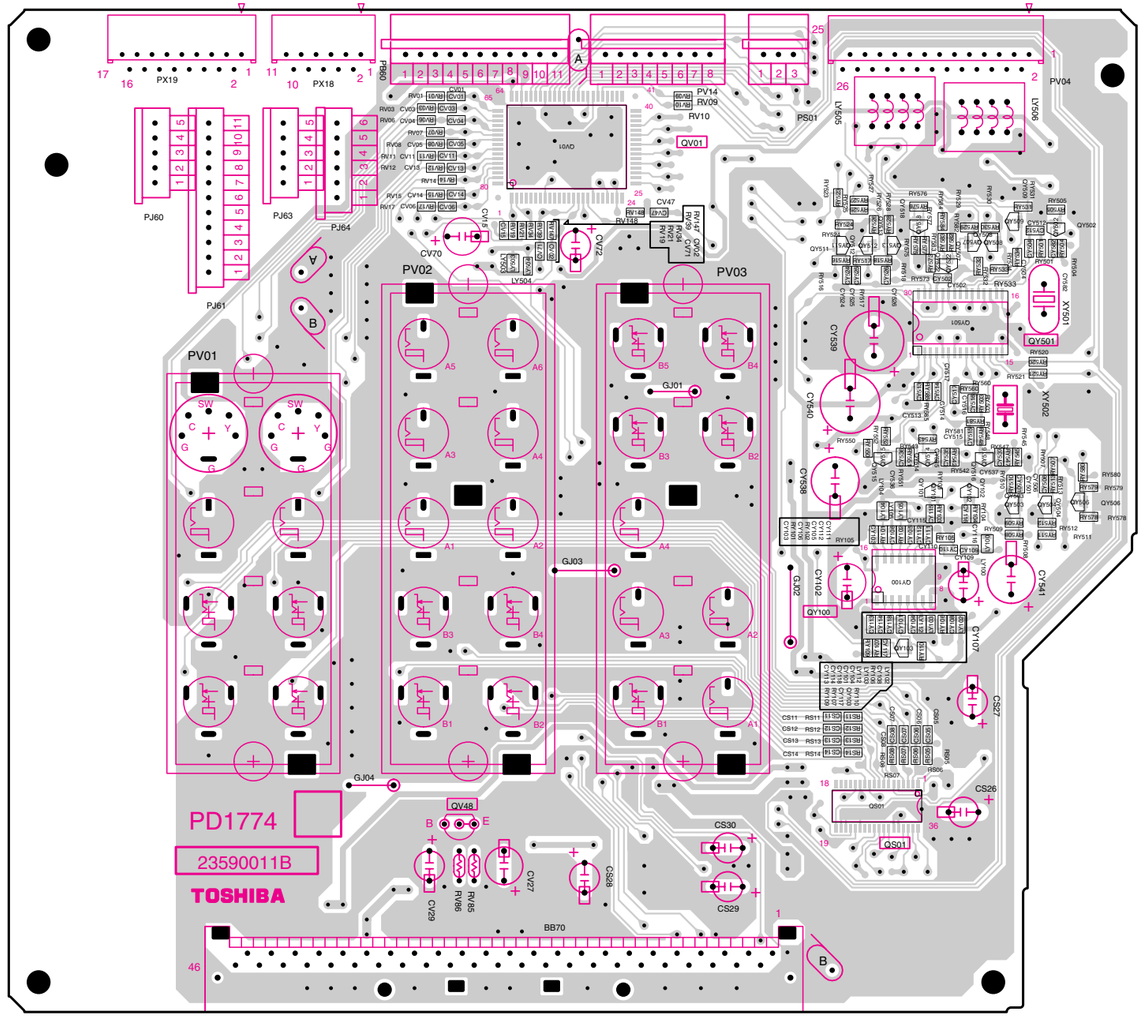
BACK AV BOARD PD1774A (U103)

BOTTOM (FOIL) SIDE



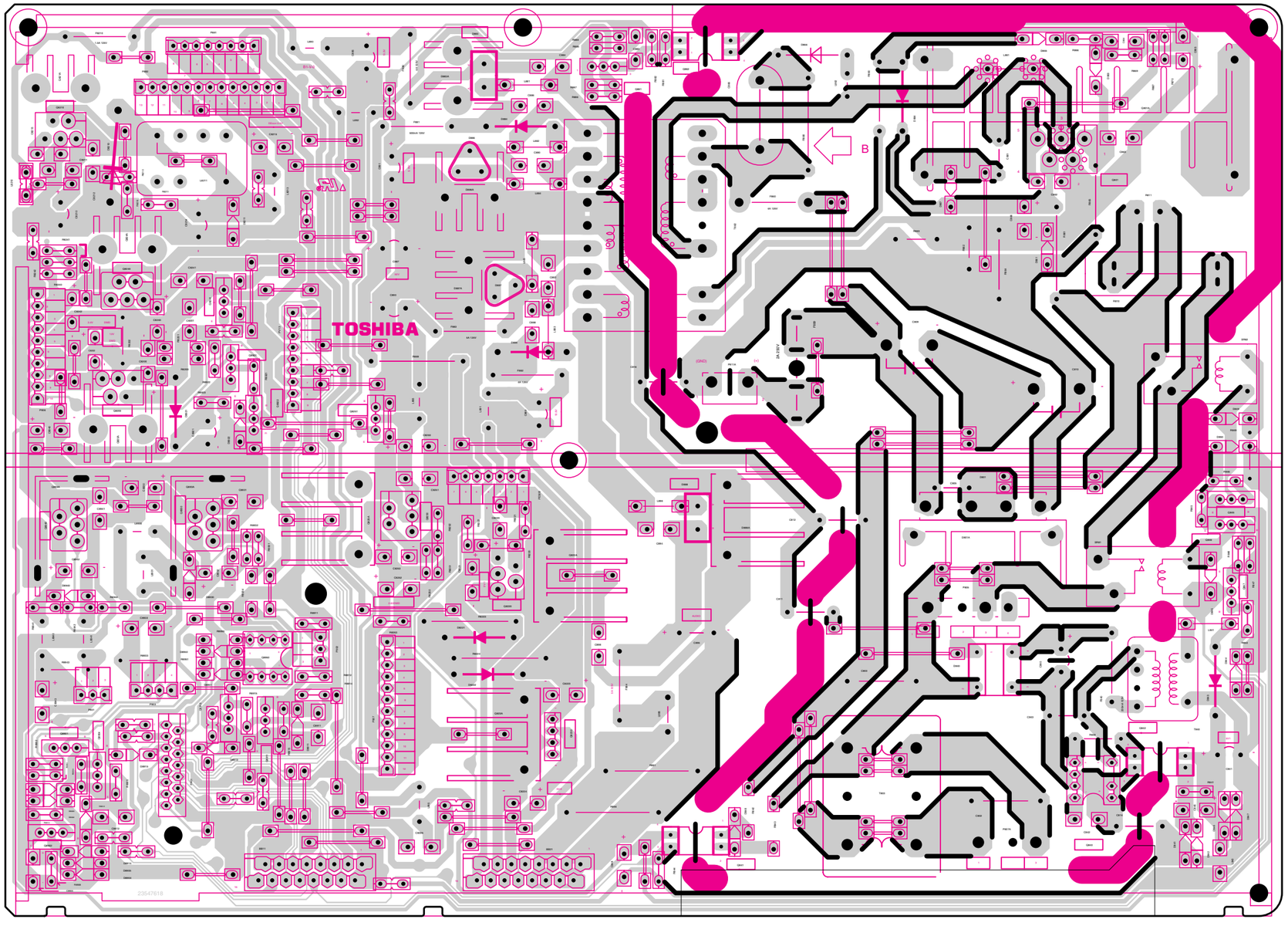
BACK AV BOARD PD1774A (U103)

TOP (COMPONENT) SIDE



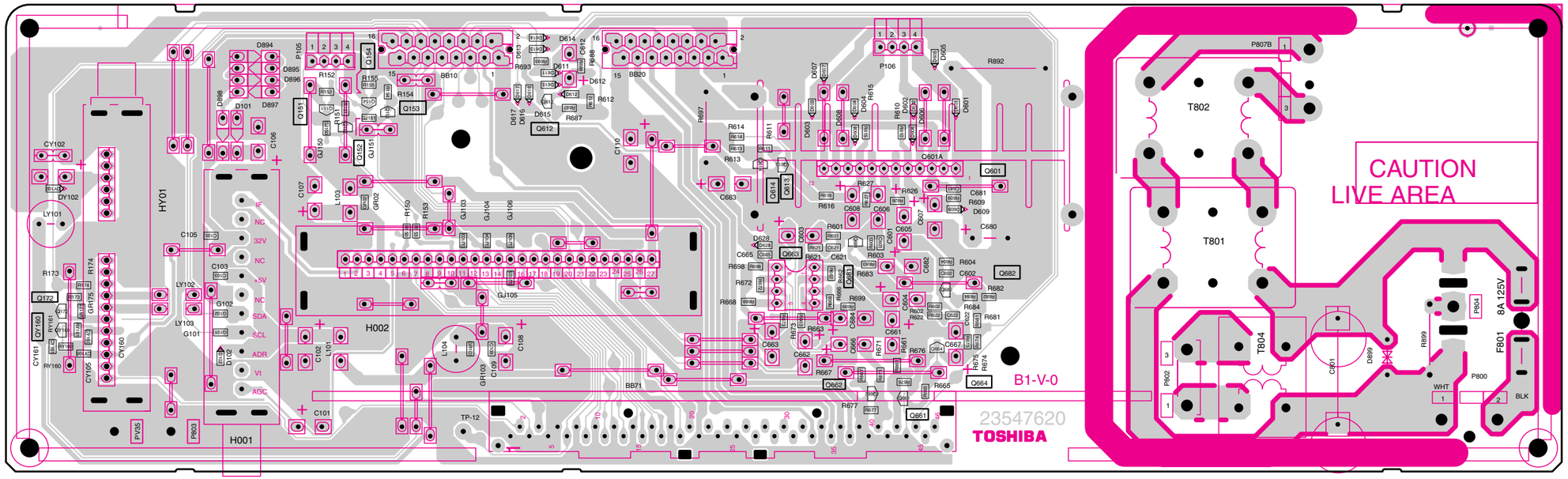
MAIN POWER BOARD PD1773A-1 (U802)

BOTTOM (FOIL) SIDE



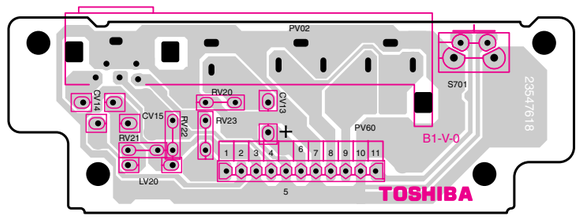
IF AUDIO BOARD PD1775 (U101)

BOTTOM (FOIL) SIDE



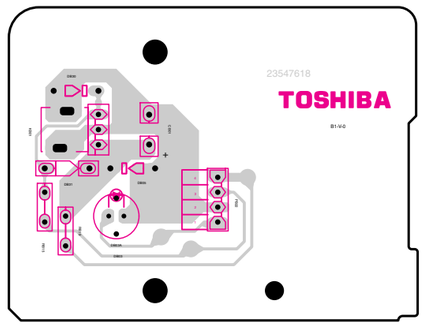
F-AV BOARD PD1773A-2 (UV03)

BOTTOM (FOIL) SIDE



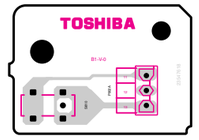
REMOTE SENSOR BOARD PD1773A-3 (UA02)

BOTTOM (FOIL) SIDE



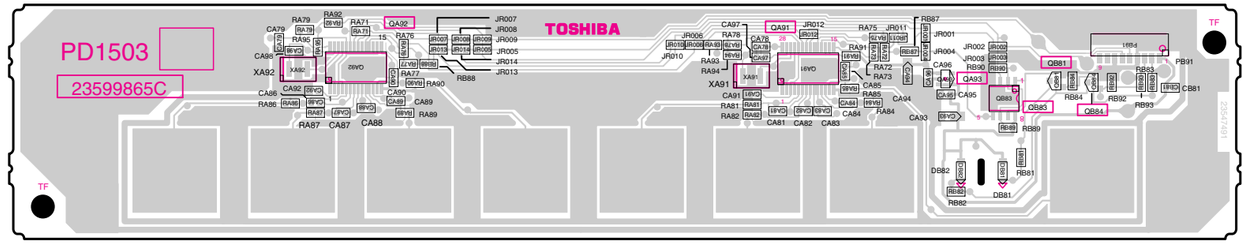
DOOR SWITCH BOARD PD1773A-4 (UA03)

BOTTOM (FOIL) SIDE



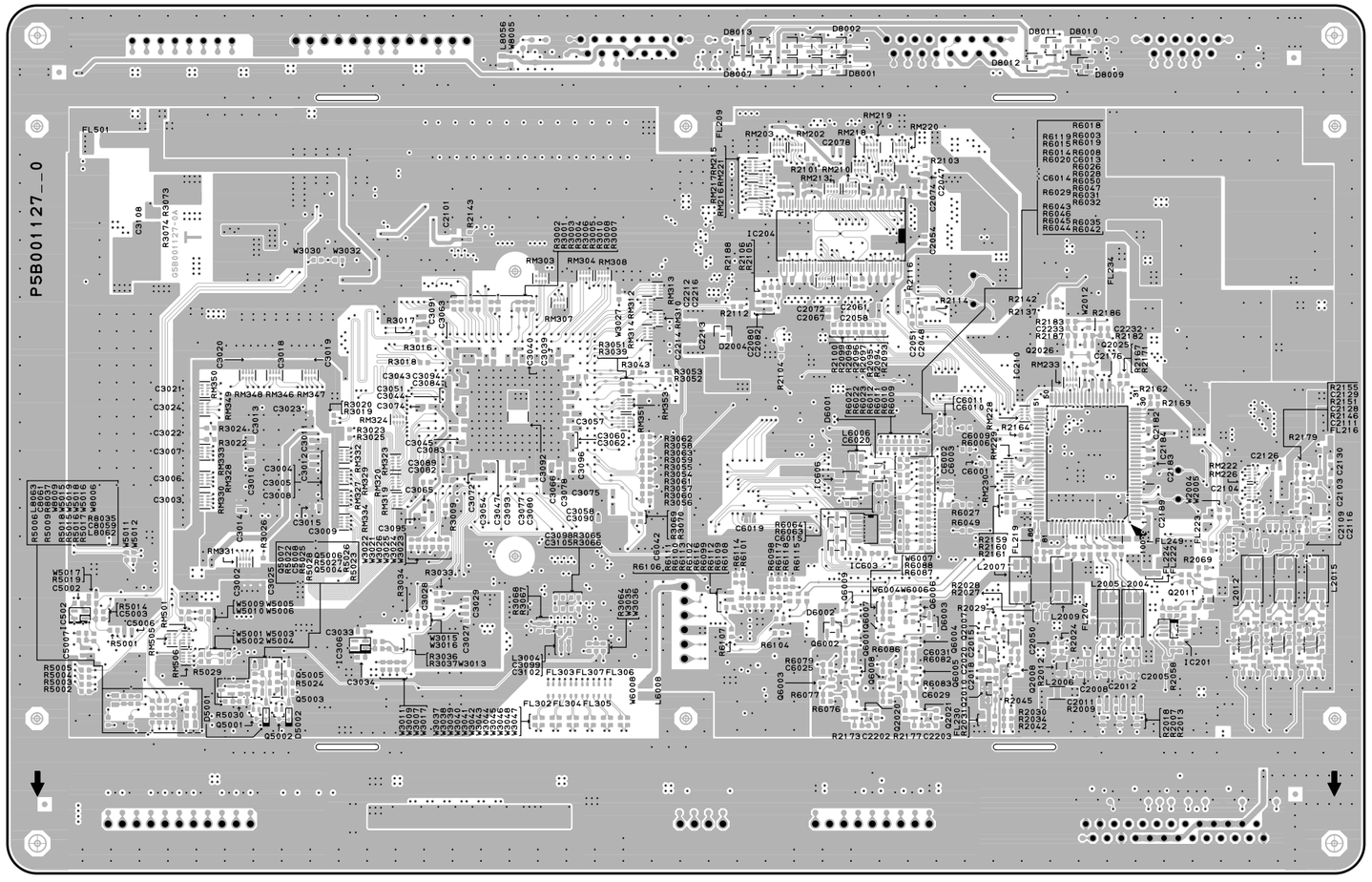
FRONT KEY BOARD PD1503 (UA06)

TOP (COMPONENT) SIDE



OPSS SCALER BOARD (46HM84:PD1870C1 52HM84:PD1870A1 62HM84:PD1870B1) (UD02)

BOTTOM (FOIL) SIDE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R2101
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RM213
IC204
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C2232
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W3045
W3036
W3035
C3033
C3030
W3015
W3016
C3027
R3036
R3037
W3013
L3004
C3099
C3102
FL303
FL307
FL306
C3034
FL302
FL304
FL305
W3009
W3017
W3037
W3038
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W3041
W3042
W3043
W3045
W3046
W3047
L6008
W6008
C6042
R6102
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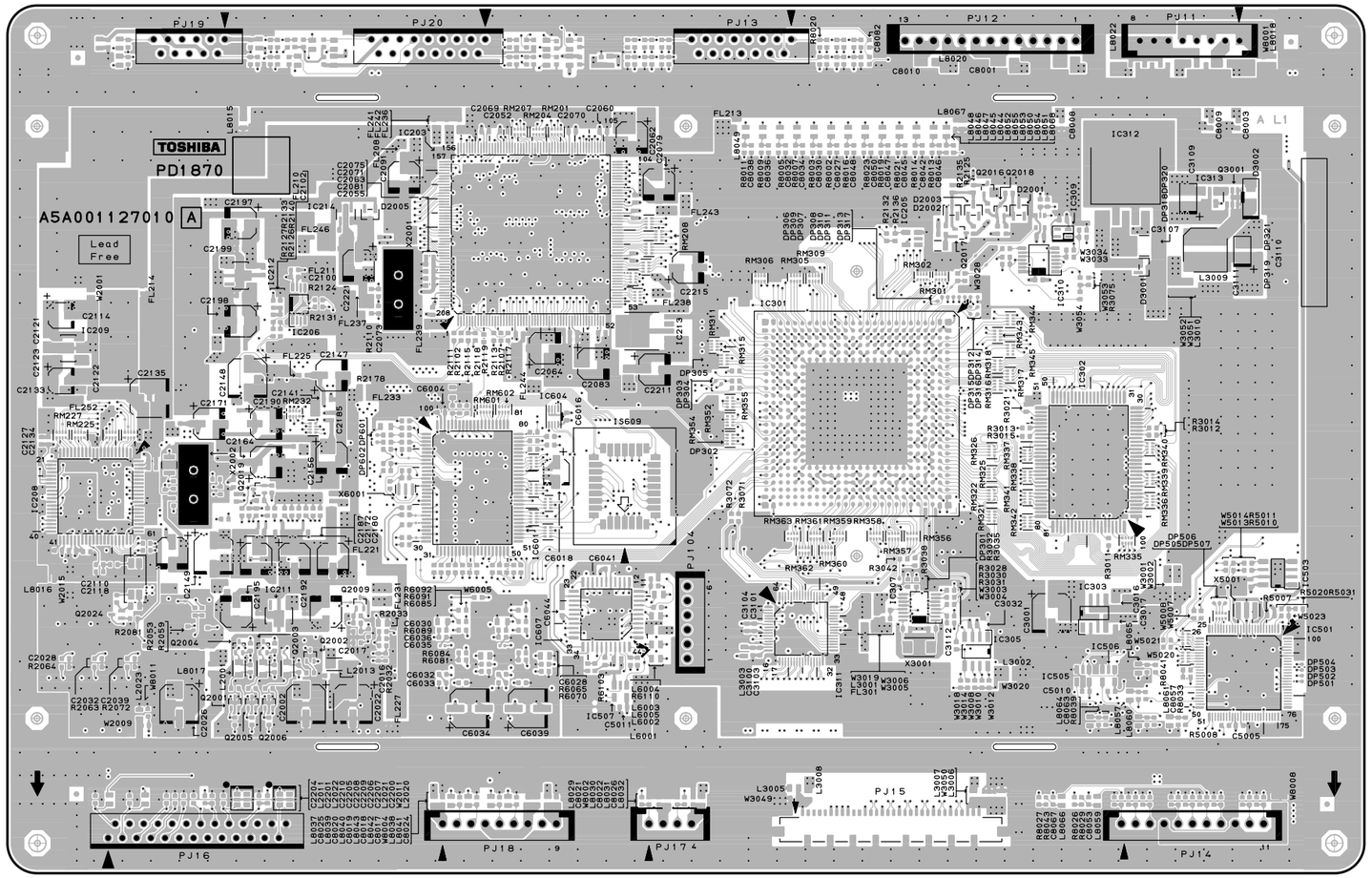
W6039
W6040

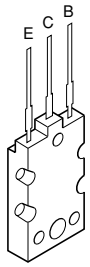
OPSS SCALER BOARD (46HM84:PD1870C1 52HM84:PD1870A1 62HM84:PD1870B1) (UD02)

TOP (COMPONENT) SIDE

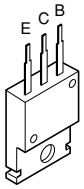


TERMINAL VIEW OF TRANSISTORS

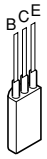
① 2SC5144
2SC5859



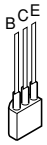
② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



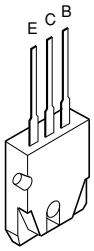
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



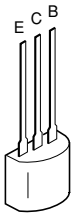
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



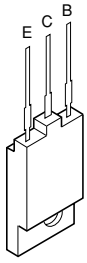
⑤ 2SA1788



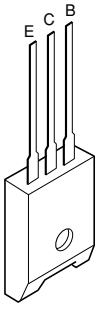
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SD2553
2SC5143



⑧ ON4409



SCHEMATIC DIAGRAM

MODEL : 46HM84/52HM84/62HM84

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

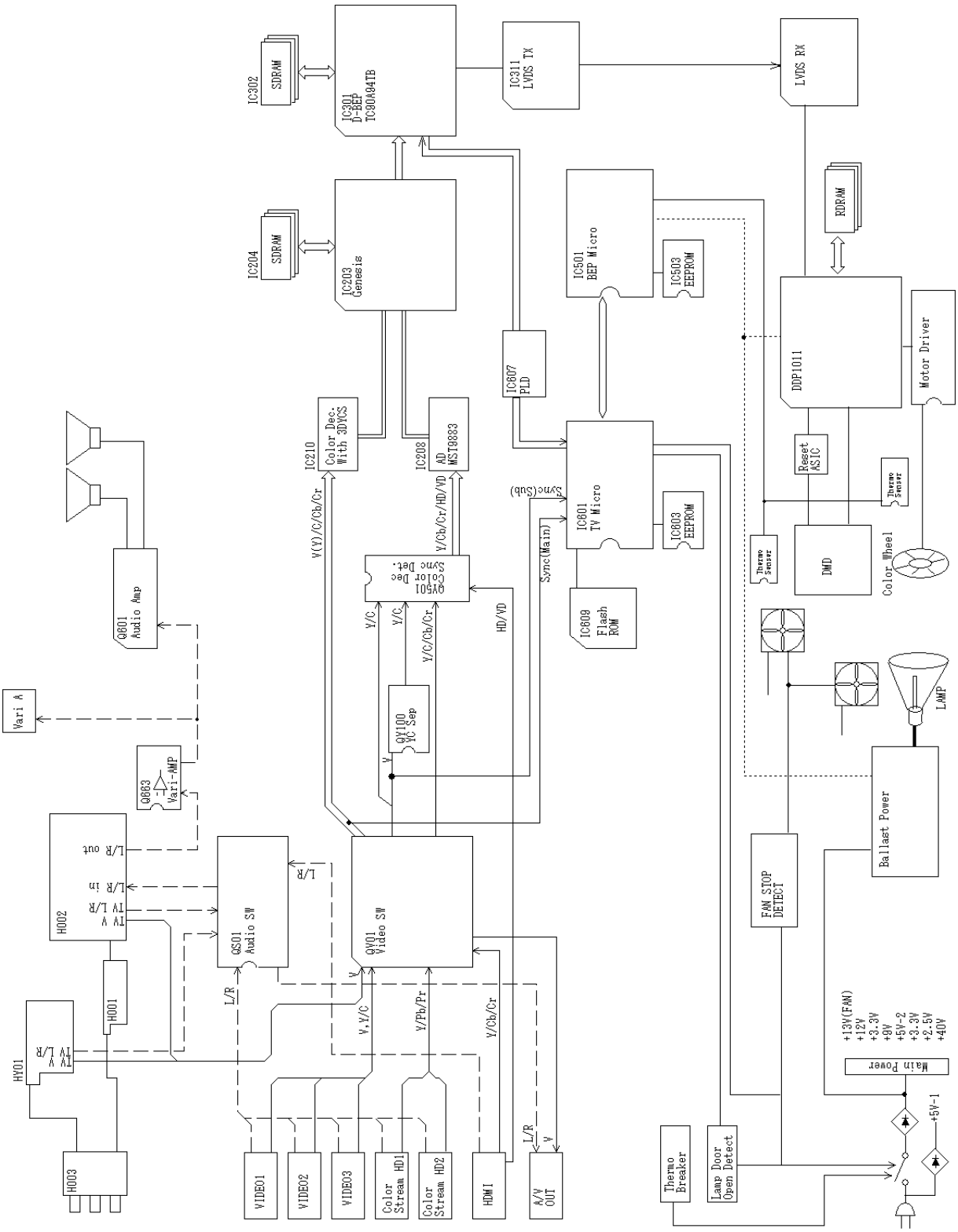
NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   Electolytic capacitor Mylar capacitor
3. The parts indicated with "⚠" have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage at 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ **SCHEMA TIC DIAGRAM STRUCTURE:**

- BACK AV Circuit
  - (1/5) [SHEET - 1/5] 1/52
  - (2/5) [SHEET - 2/5] 2/52
  - (3/5) [SHEET - 3/5] 3/52
  - (4/5) [SHEET - 4/5] 4/52
  - (5/5) [SHEET - 5/5] 5/52
- IF AUDIO Circuit
  - (1/3) [SHEET - 1/3] 6/12
  - (2/3) [SHEET - 2/3] 7/52
  - (3/3) [SHEET - 3/3] 8/52
- F-AV Circuit 9/52
- AV_CONNECTOR Circuit 10/52
- AD_LPF Circuit 11/52
- DVCD2_LPF Circuit 12/52
- DVCD1_LPF Circuit 13/52
- 3chADC HD Circuit 14/52
- 3chADC MST9883 Circuit 15/52
- DVCD CSYNCIN Circuit 16/52
- DVCD TC90A92AFG Circuit 17/52
- DVCD POWER Circuit 18/52
- GENESIS Circuit
  - (1/2) [SHEET - 1/2] 19/52
  - (2/2) [SHEET - 2/2] 20/52
- SDRAM Circuit 21/52
- GENESIS_POWER Circuit 22/52
- GENESIS_IIC Circuit 23/52
- SCALER DIGITAL INPUT Circuit 24/52
- SCALER CAPTURE INPUT Circuit 25/52
- DDR SDRAM Circuit 26/52
- SCALER PLL Circuit 27/52
- OSD for North America Circuit 28/52
- IIC Circuit 29/52
- 94TB POWER Circuit 30/52
- LVDS OUT Circuit 31/52
- Power (3.3V_2 to 2.5V_DVCC) Circuit 32/52
- LVDS OUT CONNECTOR Circuit 33/52
- DC/DC CONVERTER Circuit 34/52
- SUB MICON Circuit
  - (1/3) [SHEET - 1/3] 35/52
  - (2/3) [SHEET - 2/3] 36/52
  - (3/3) [SHEET - 3/3] 37/52
- OSD MICON 4/4 Circuit 38/52
- MICON Circuit
  - (1/3) [SHEET - 1/3] 39/52
  - (2/3) [SHEET - 2/3] 40/52
  - (2/3) [SHEET - 3/3] 41/52
- TV MICON RESET IC & FLASH Circuit 42/52
- SYNC_DETECT Circuit 43/52
- PLD (US OSD SYNC Generator) Circuit 44/52
- POWER_CONNECTOR Circuit 45/52
- TV MICON CONNECTOR (1) Circuit 46/52
- CONNECTOR (TV MICON-POWER BOARD) Circuit 47/52
- CONNECTOR (DLF I/F) Circuit 48/52
- SERVICE CONNECTOR Circuit 49/52
- Front Key Circuit 50/52
- MAIN POWER Circuit 51/52
- AC IN Circuit 52/52

CIRCUIT BLOCK DIAGRAM



Specifications

• Design and specifications are subject to change without notice.

Television System
NTSC standard

Channel Coverage
VHF: 2 through 13
UHF: 14 through 69
Cable TV: Mid band (A-8 through A-1, A through I)
Super band (J through W)
Hyper band (AA through ZZ, AAA, BBB)
Ultra band (65 through 94, 100 through 125)

Power Source
120 V AC, 60 Hz

Power Consumption
190 W (average)

Audio Power
20 W + 20 W

Speaker Type
Main: Two 4 inches (10 cm) round
Tweeter: Two 1-5/8 inches (4 cm) round

Video/Audio Terminals
S-VIDEO INPUT
Y : 1 V(p-p), 75 ohms, negative sync.
C : 0.286 V(p-p) (burst signal), 75 ohms
VIDEO/AUDIO INPUT
VIDEO: 1 V(p-p), 75 ohms, negative sync.
AUDIO: 150 mV(rms) (30% modulation equivalent, 22 k ohms or more)
ColorStream® (component video) INPUT
Y : 1V(p-p), 75 ohms
PR: 0.7 V(p-p), 75 ohms
PB: 0.7 V(p-p), 75 ohms
AUDIO: 150 mV(rms), 22 k ohms or more
VIDEO/AUDIO OUTPUT
VIDEO: 1 V(p-p), 75 ohms, negative sync.
AUDIO: 150 mV(rms) (30% modulation equivalent, 2.2 k ohms or less)
VARIABLE AUDIO OUTPUT
0–300 mV(rms) (30% modulation equivalent, 2.2 k ohms or less)
HDMI INPUT:
HDMI compliant (type A connector)
HDCP compliant
E-EDID* compliant
Suggested scan rates: 1080i, 480p, 480i, 720p
HDMI Audio: 2-channel PCM
32/44.1/48 kHz sampling frequency
16/20/24 bits per sample

Dimensions

46HM84:	Width	53-1/8 inches (1,349 mm)
	Height	31-13/16 inches (808 mm)
	Depth	15-1/4 inches (387 mm)
52HM84:	Width	58-3/8 inches (1,483 mm)
	Height	35-1/16 inches (890 mm)
	Depth	15-1/4 inches (387 mm)
62HM84:	Width	67-1/16 inches (1,703 mm)
	Height	40-15/16 inches (1,040 mm)
	Depth	18-3/16 inches (462 mm)

Mass
46HM84: 78 lbs (35.0 kg)
52HM84: 83 lbs (38.0 kg)
62HM84: 99 lbs (45.0 kg)

Supplied Accessories
Remote Control with 2 size “AA” alkaline batteries
Owner’s Manual (this book)
Important notes sheet

Optional TV Stand
46HM84: ST4684
52HM84: ST5284
62HM84: ST6284

Operating condition
Temperature: 41°F–95°F (5°C–35°C)

– END –

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

SCHEMATIC DIAGRAM

MODEL : 46HM84/52HM84/62HM84

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NOTE:

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   1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt
   10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
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   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   Electolytic capacitor
   Mylar capacitor
3. The parts indicated with "⚠" have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage at 220 volts.
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- BACK AV Circuit
  - (1/5) [SHEET - 1/5] 1/52
  - (2/5) [SHEET - 2/5] 2/52
  - (3/5) [SHEET - 3/5] 3/52
  - (4/5) [SHEET - 4/5] 4/52
  - (5/5) [SHEET - 5/5] 5/52
- IF AUDIO Circuit
  - (1/3) [SHEET - 1/3] 6/12
  - (2/3) [SHEET - 2/3] 7/52
  - (3/3) [SHEET - 3/3] 8/52
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- MICON Circuit
  - (1/3) [SHEET - 1/3] 39/52
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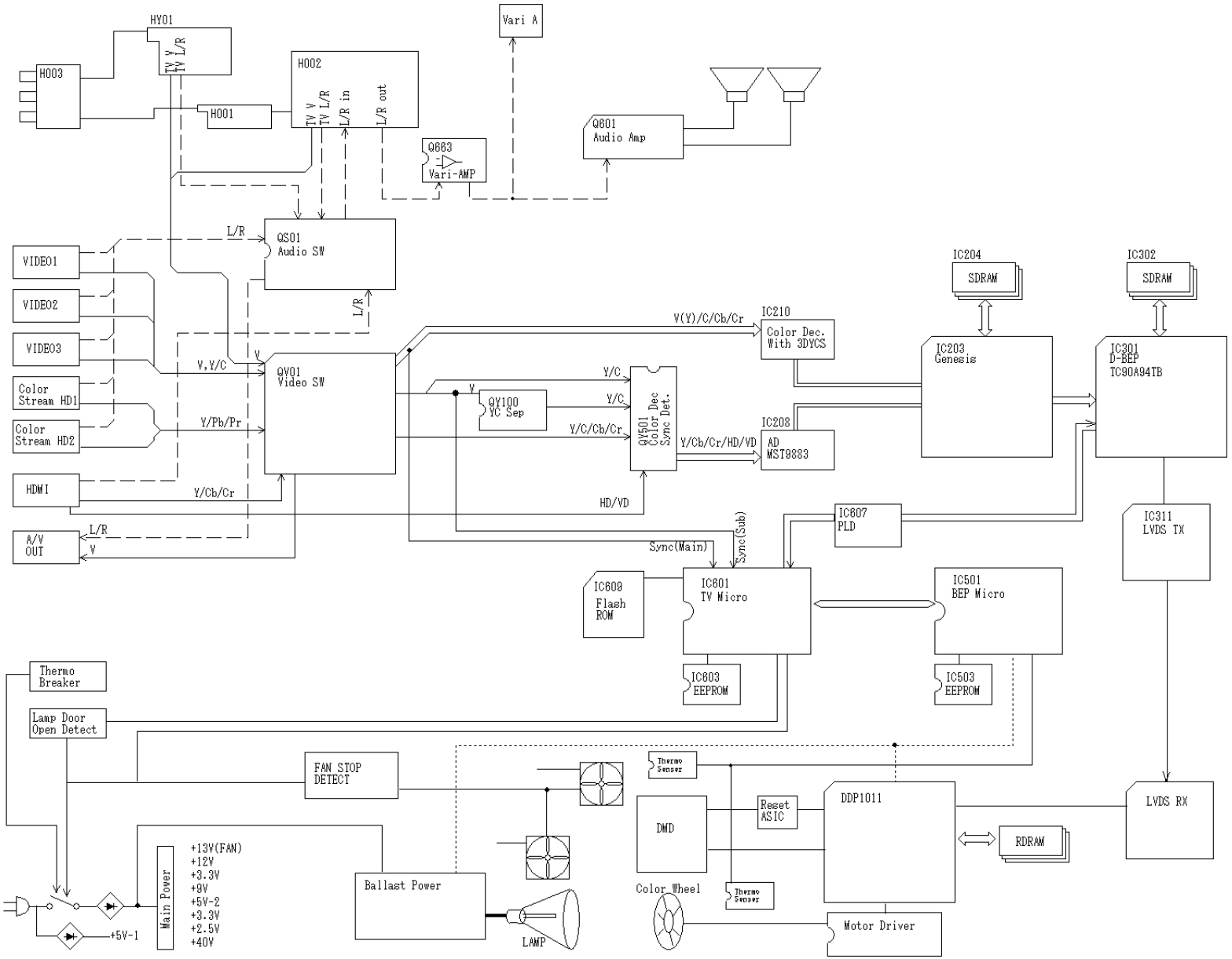
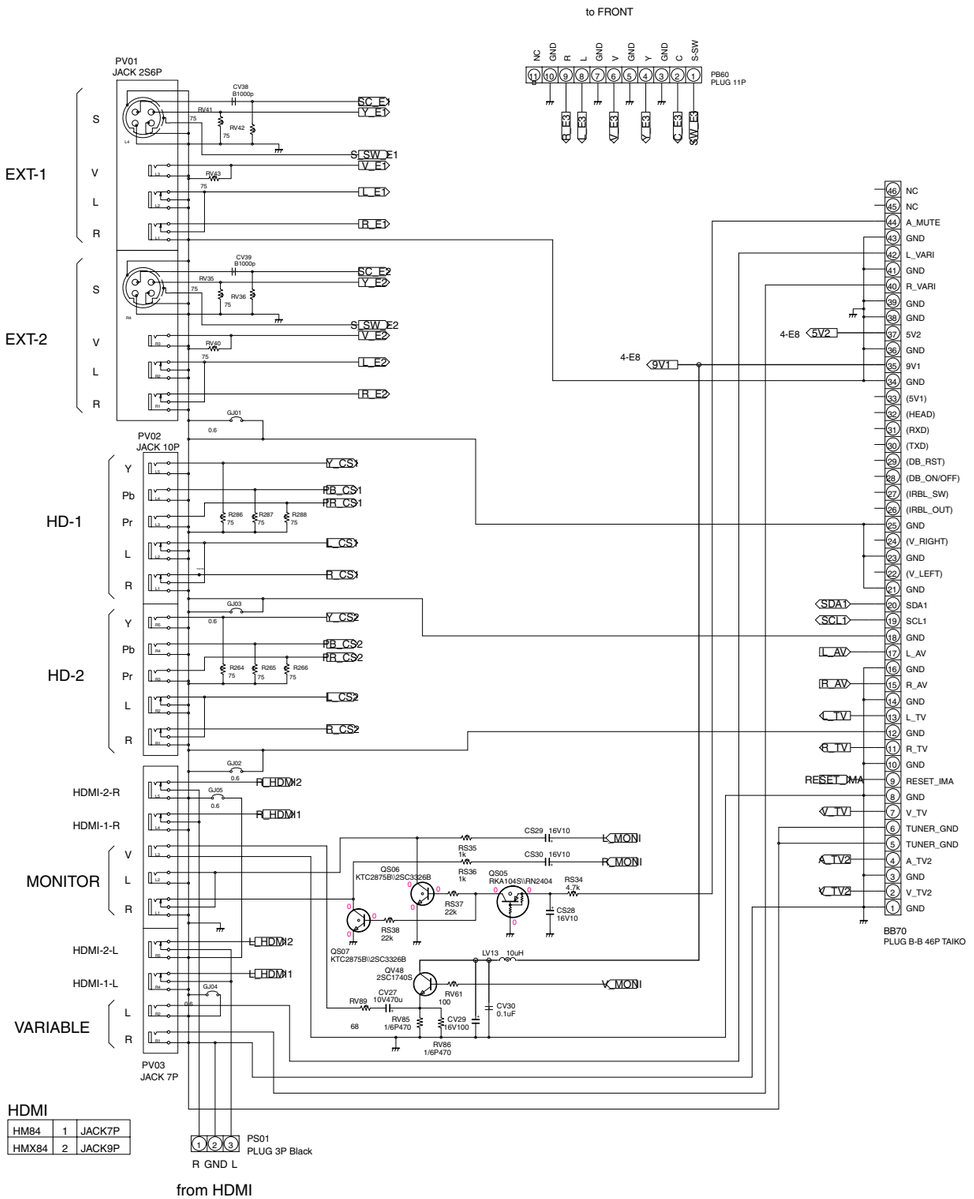
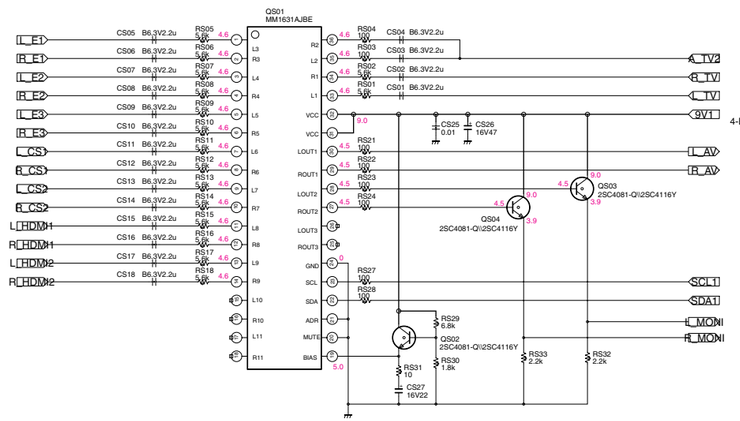
- SERVICE CONNECTOR Circuit 49/52
- Front Key Circuit 50/52
- MAIN POWER Circuit 51/52
- AC IN Circuit 52/52

CIRCUIT BLOCK DIAGRAM

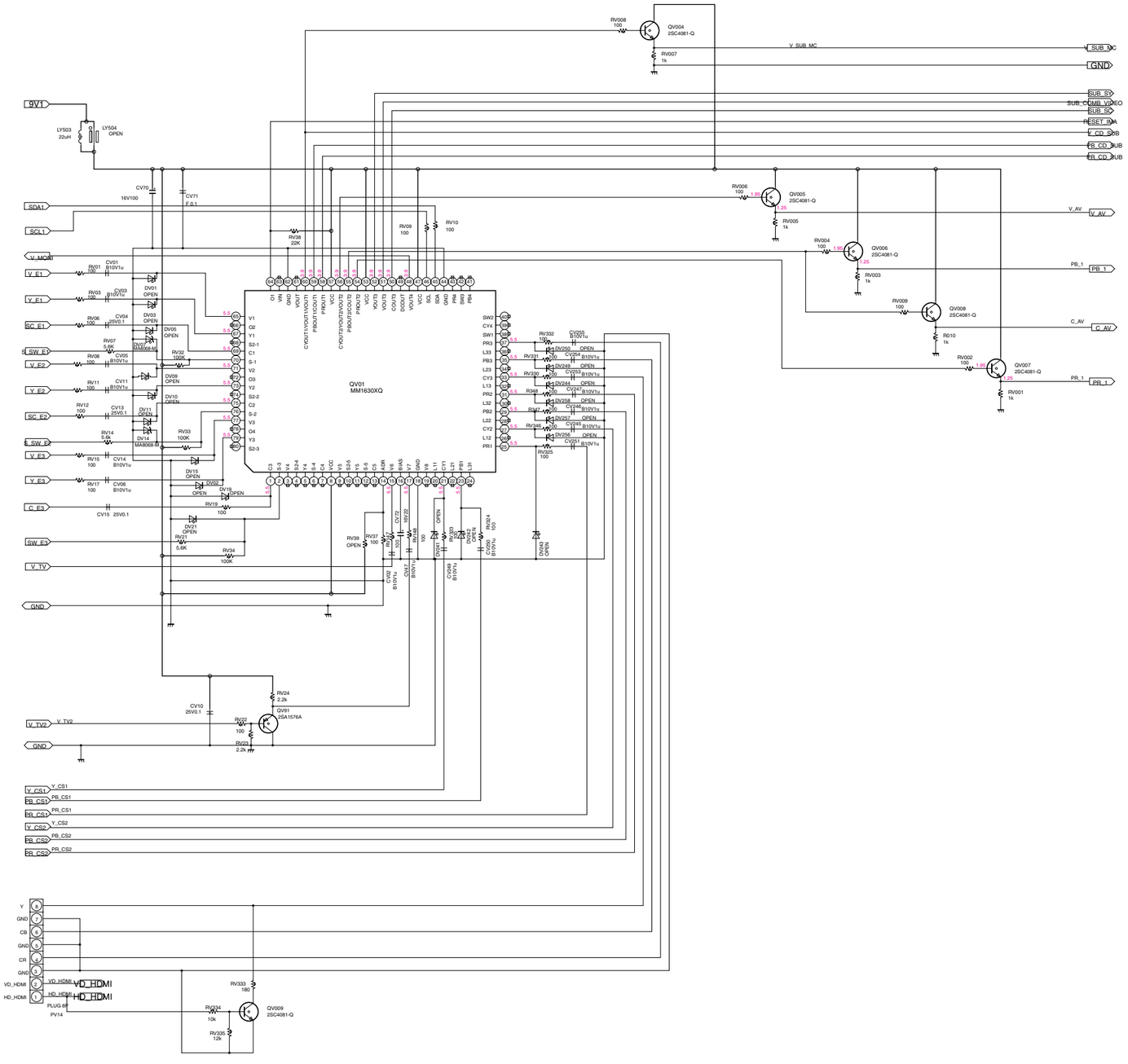




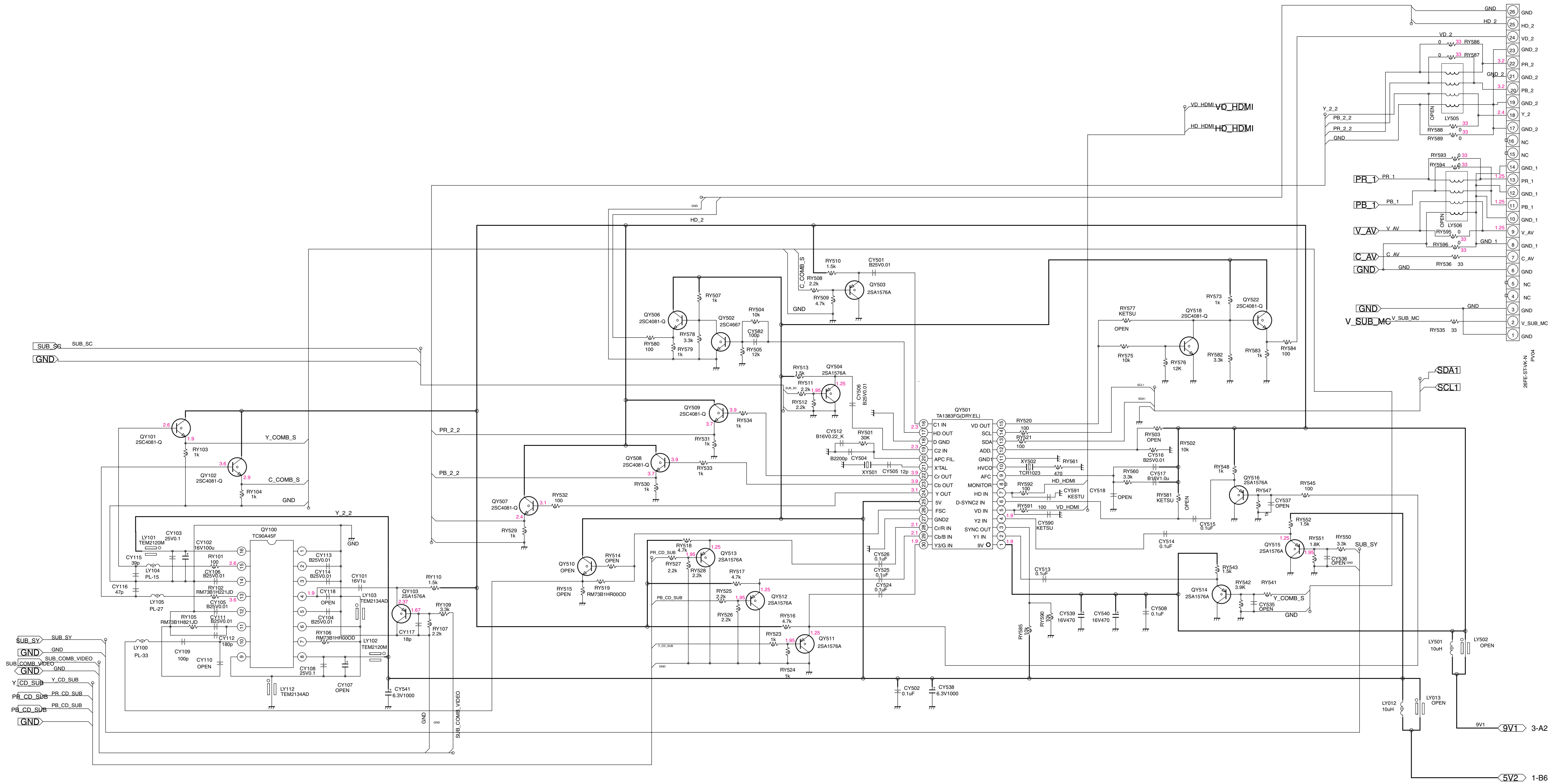
46HM84/52HM84/62HM84
BACK AV (1/5)
SHEET-1/5



46HM84/52HM84/62HM84
BACK AV (2/5)
SHEET-2/5



46HM84/52HM84/62HM84
BACK AV (3/5)
SHEET-3/5


QY501
TA1383FG(DRY.EL)
C1 IN
HD OUT
D GND
C2 IN
APC FIL.
X'TAL
Cr OUT
Cb OUT
Y OUT
5V
FSC
GND2
Cr/R IN
Cb/B IN
Y3/G IN
VD OUT
SCL
SDA
ADD.
GND1
HVCO
AFC
MONITOR
HD IN
D-SYNC2 IN
VD IN
Y2 IN
SYNC OUT
Y1 IN
9V
QY100
TC90A45F
QY101
2SC4081-Q
QY102
2SC4081-Q
QY103
2SA1576A
QY502
2SC4667
QY503
2SA1576A
QY504
2SA1576A
QY506
2SC4081-Q
QY507
2SC4081-Q
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OPEN
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QY518
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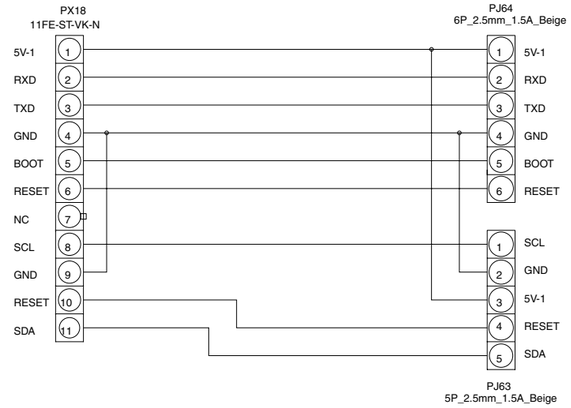
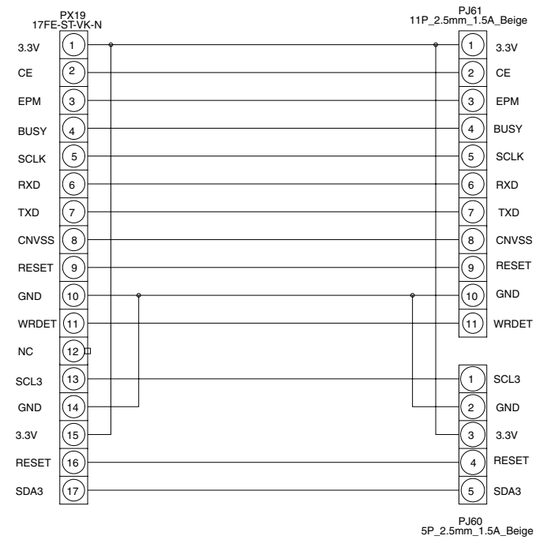
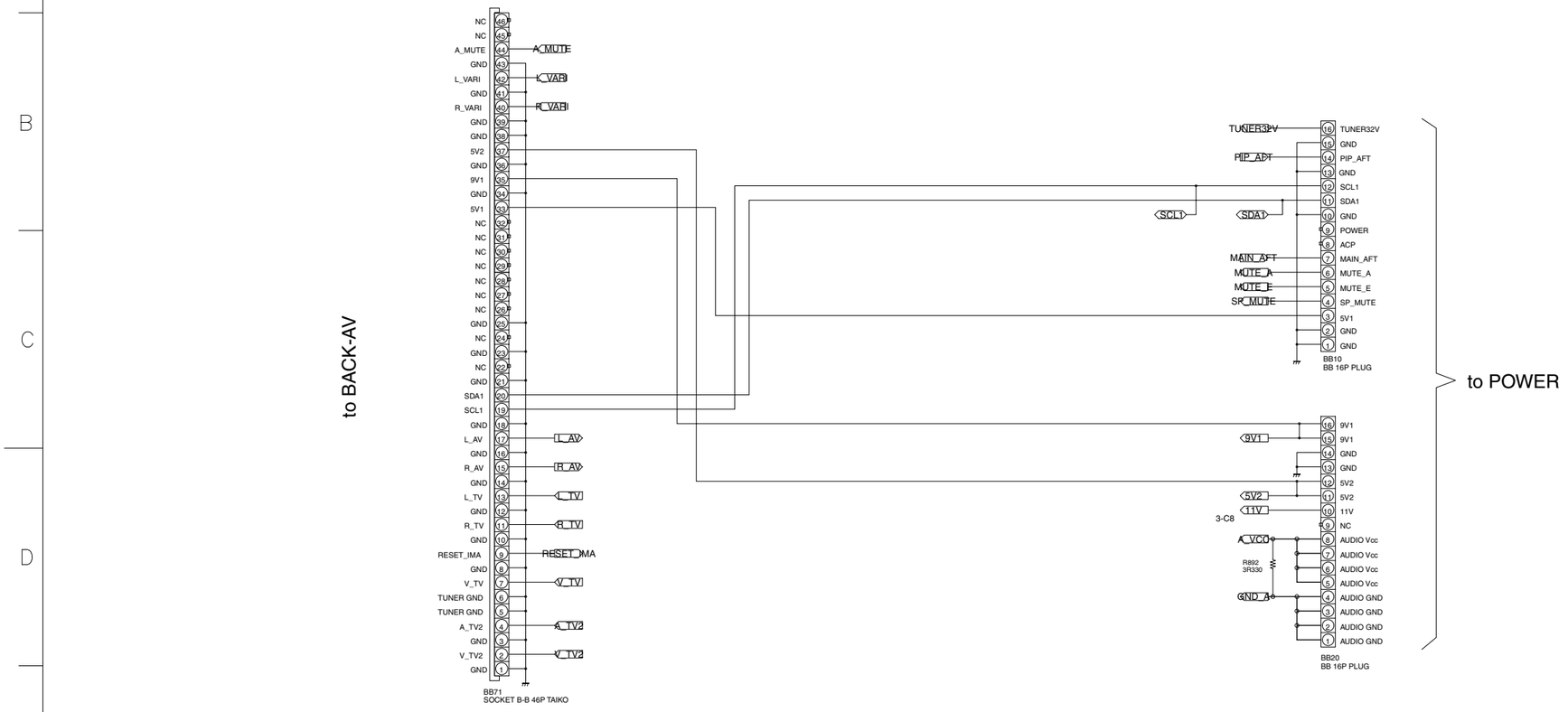
QY522
2SC4081-Q
LY505
LY506
LY501
10uH
LY502
OPEN
LY012
10uH
LY013
OPEN
SUB_SC
SUB_SY
SUB_COMB_VIDEO
Y_CD_SUB
PR_CD_SUB
PB_CD_SUB
GND
Y_COMB_S
C_COMB_S
Y_2_2
PR_2_2
PB_2_2
HD_2
VD_2
VD_HDMI
HD_HDMI
PR_1
PB_1
V_AV
C_AV
V_SUB_MC
SDA1
SCL1
9V1
3-A2
5V2
1-B6
GND
HD_2
VD_2
GND_2
PR_2
GND_2
PB_2
GND_2
Y_2
GND_2
NC
NC
GND_1
PR_1
GND_1
PB_1
GND_1
V_AV
GND_1
C_AV
GND
NC
NC
GND
V_SUB_MC
GND
26FE-ST-VK-N
PV04

46HM84/52HM84/62HM84
BACK AV (4/5)
SHEET-4/5

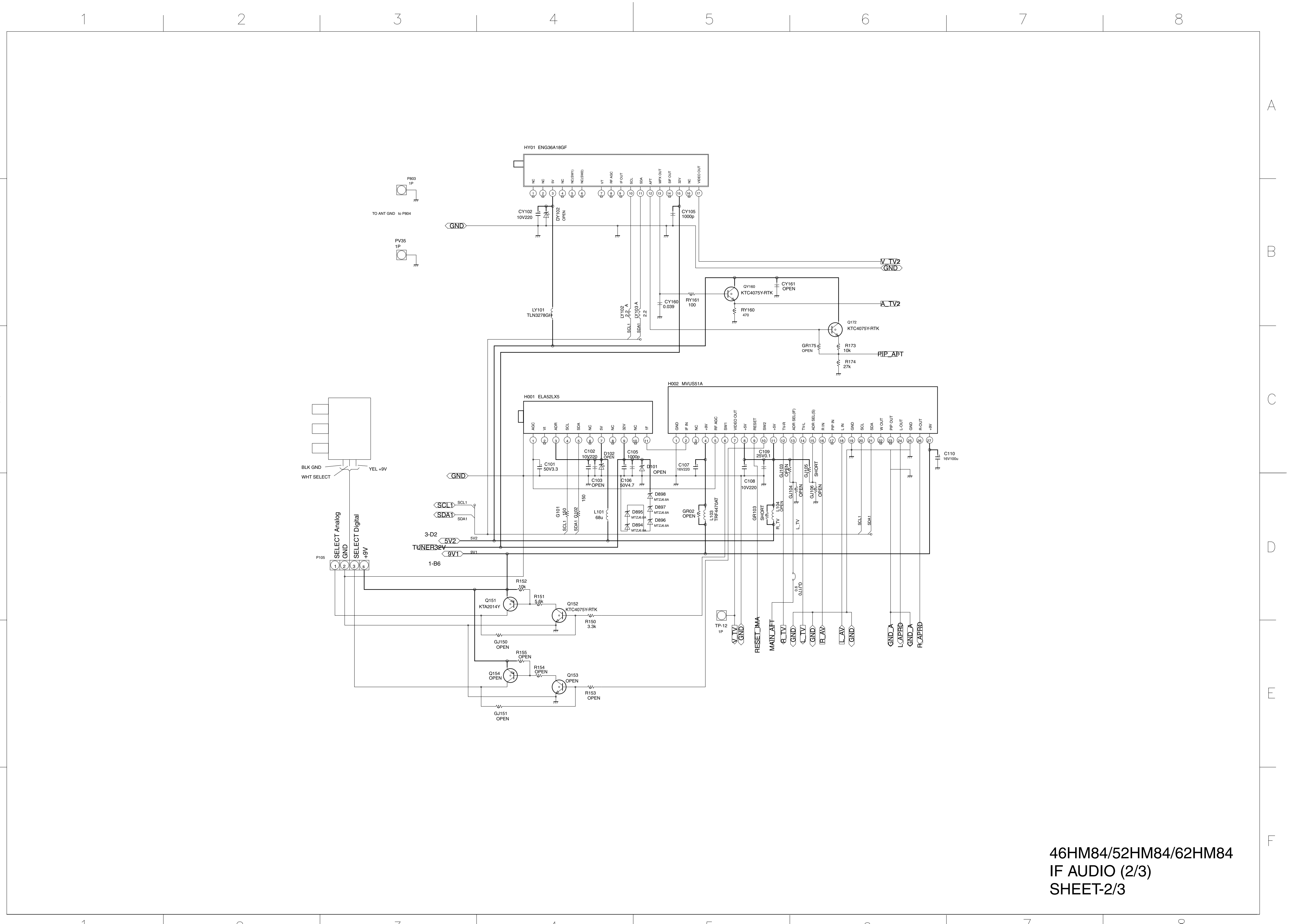




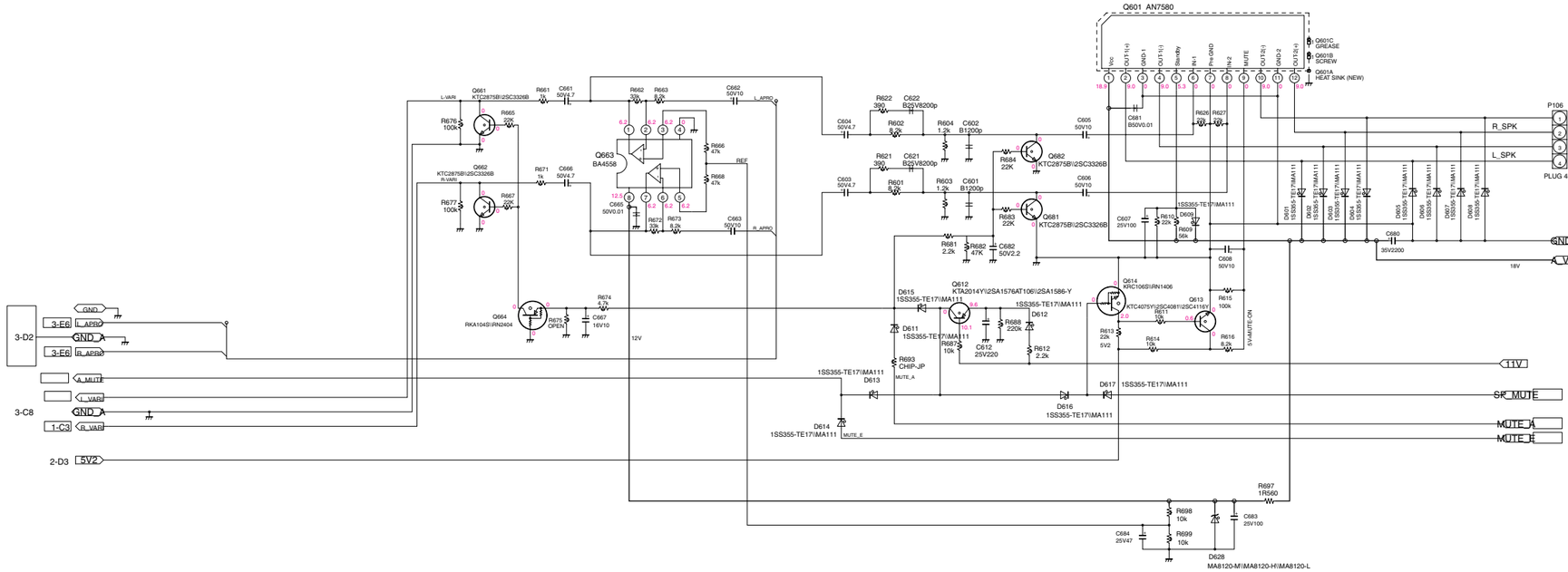
46HM84/52HM84/62HM84
BACK AV (5/5)
SHEET-5/5



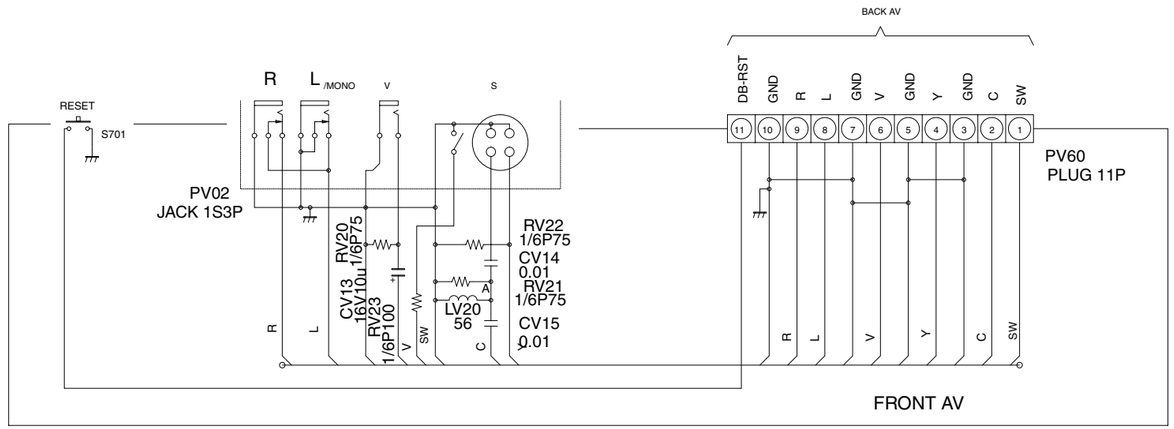
46HM84/52HM84/62HM84
IF AUDIO (1/3)
SHEET-1/3

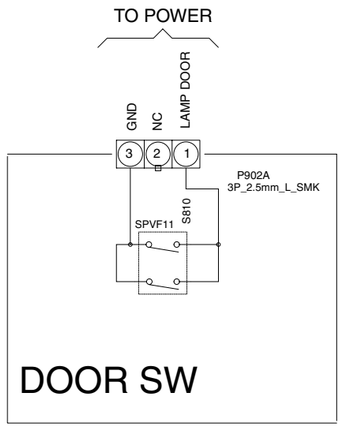

HY01 ENG36A18GF
NC
NC
5V
NC
NC(SW1)
NC(SW2)
VT
RF AGC
IF OUT
SCL
SDA
AFT
MPX OUT
SIF OUT
32V
NC
VIDEO OUT
P803
1P
TO ANT GND to P804
PV35
1P
GND
CY102
10V220
DY102
OPEN
CY105
1000p
V_TV2
GND
QY160
KTC4075Y-RTK
CY161
OPEN
CY160
0.039
RY161
100
RY160
470
A_TV2
LY101
TLN3278GH
LY102
2.2 A
LY103 A
2.2
SCL1
SDA1
Q172
KTC4075Y-RTK
GR175
OPEN
R173
10k
PIP_AFT
R174
27k
H002 MVUS51A
GND
IF IN
NC
+9V
RF AGC
SW1
VIDEO OUT
+5V
RESET
SW2
+5V
TV-R
ADR SEL(IF)
TV-L
ADR SEL(S)
R IN
PIP IN
L IN
GND
SCL
SDA
W OUT
PIP OUT
L-OUT
GND
R-OUT
+9V
H001 ELA52LX5
AGC
Vt
ADR
SCL
SDA
NC
5V
NC
32V
NC
1F
C101
50V3.3
C102
10V220
D102
OPEN
C103
OPEN
C105
1000p
C106
50V4.7
D101
OPEN
C107
16V220
C109
25V0.1
C108
10V220
GJ103
OPEN
GJ104
OPEN
GJ105
SHORT
GJ106
OPEN
C110
16V100u
BLK GND
WHT SELECT
YEL +9V
SCL1
SDA1
G101
150
G102
150
L101
68u
D898
D897
D896
D895
D894
MTZJ6.8A
GR02
OPEN
L103
TRF4470AT
GR103
SHORT
L104
OPEN
R_TV
L_TV
3-D2
5V2
TUNER32V
9V1
1-B6
P105
SELECT Analog
GND
SELECT Digital
+9V
R152
10k
Q151
KTA2014Y
R151
5.6k
Q152
KTC4075Y-RTK
R150
3.3k
GJ150
OPEN
R155
OPEN
Q154
OPEN
R154
OPEN
Q153
OPEN
R153
OPEN
GJ151
OPEN
GJ170
0.6
TP-12
1P
V_TV
GND
RESET_MA
MAIN_AFT
R_TV
GND
L_TV
GND
R_AV
L_AV
GND
GND_A
L_APRO
GND_A
R_APRO

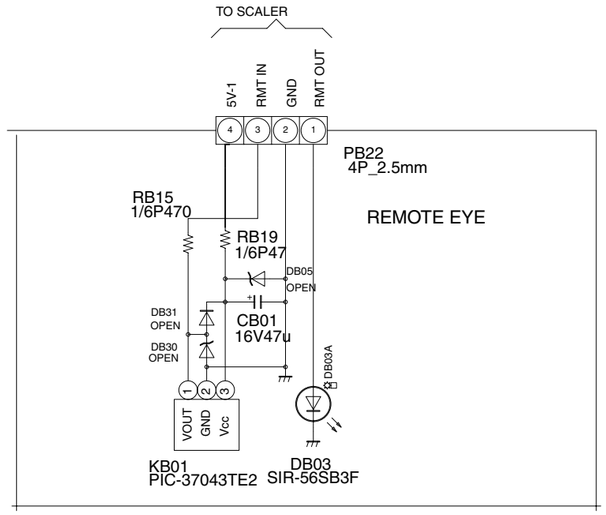
46HM84/52HM84/62HM84
IF AUDIO (2/3)
SHEET-2/3



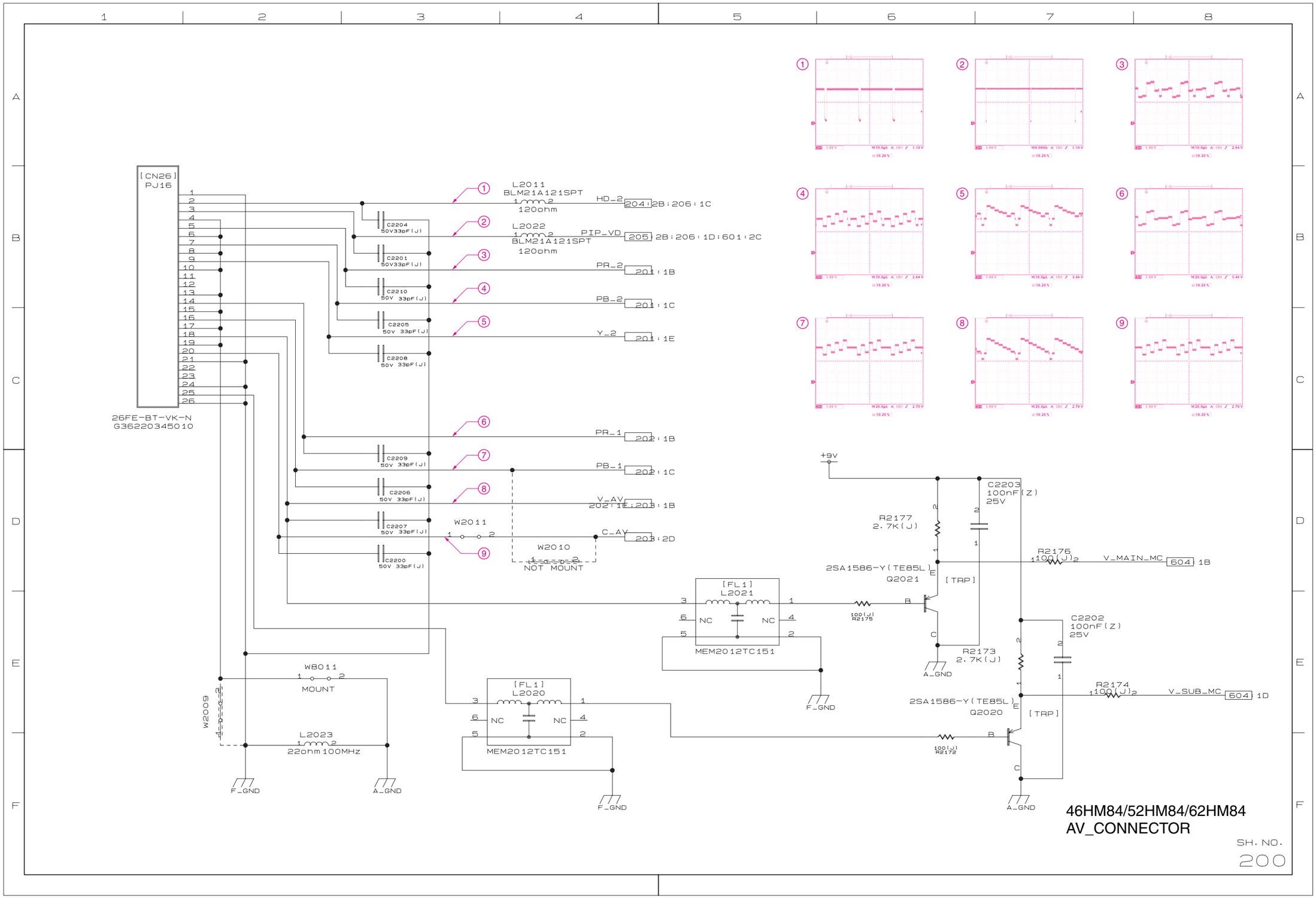
46HM84/52HM84/62HM84
IF AUDIO (3/3)
SHEET-3/3



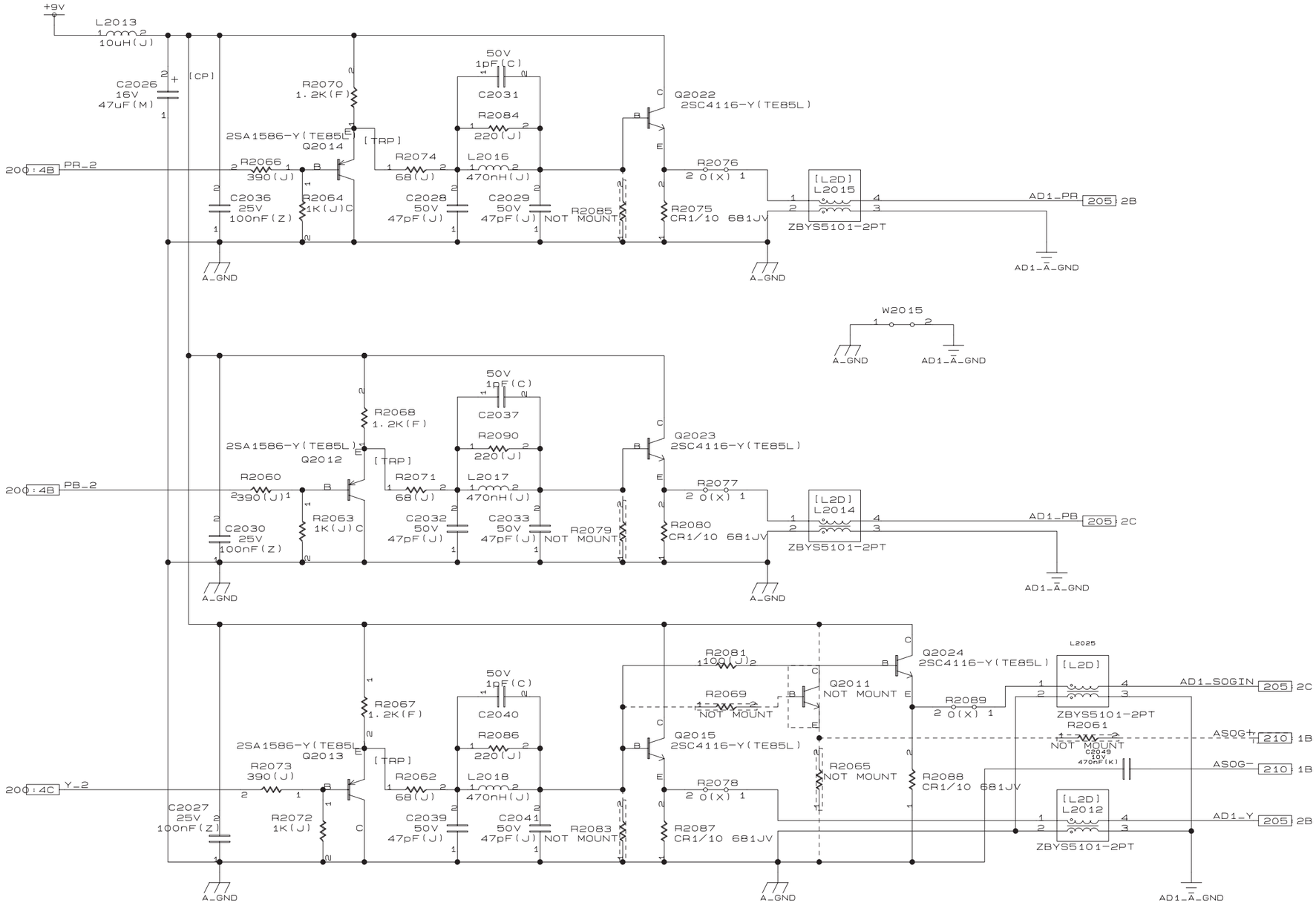




46HM84/52HM84/62HM84
F-AV

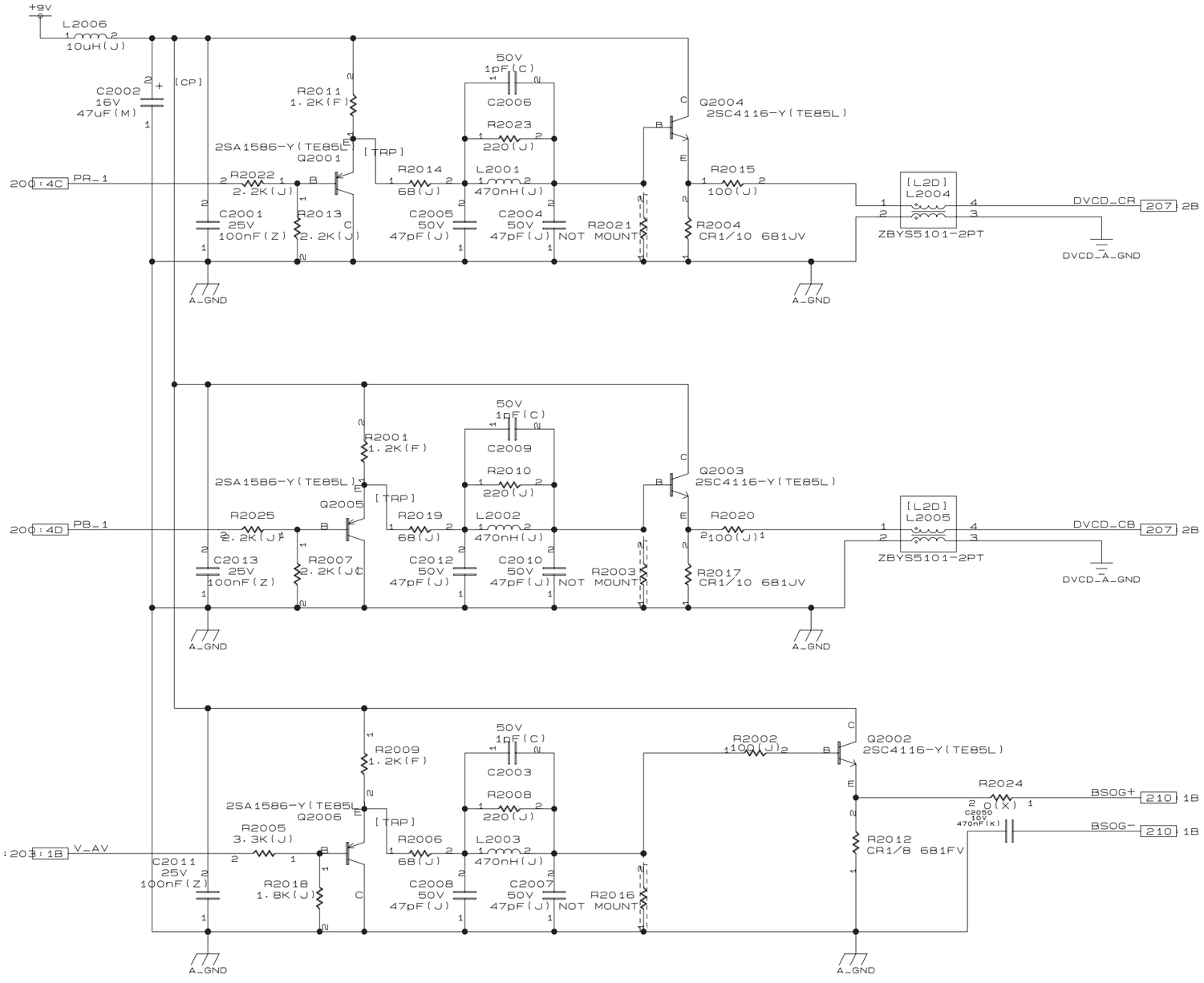

[CN26]
PJ16
26FE-BT-VK-N
G36220345010
L2011
BLM21A121SPT
120ohm
L2022
BLM21A121SPT
120ohm
C2204 50V33pF(J)
C2201 50V33pF(J)
C2210 50V 33pF(J)
C2205 50V 33pF(J)
C2208 50V 33pF(J)
C2209 50V 33pF(J)
C2206 50V 33pF(J)
C2207 50V 33pF(J)
C2200 50V 33pF(J)
HD_2 204 : 2B : 206 : 1C
PIP_VD 205 2B : 206 : 1D : 601 : 2C
PR_2 201 : 1B
PB_2 201 : 1C
Y_2 201 : 1E
PR_1 202 : 1B
PB_1 202 : 1C
V_AV 202 : 1E : 203 : 1B
C_AV 203 : 2D
W2011
W2010
NOT MOUNT
W8011
MOUNT
W2009
L2023
220hm 100MHz
F_GND
A_GND
[FL1]
L2021
MEM2012TC151
[FL1]
L2020
MEM2012TC151
+9V
C2203 100nF(Z) 25V
R2177 2.7K(J)
2SA1586-Y(TE85L)
Q2021
[TRP]
R2176 100(J)
V_MAIN_MC 604 1B
C2202 100nF(Z) 25V
R2173 2.7K(J)
R2174 100(J)
V_SUB_MC 604 1D
2SA1586-Y(TE85L)
Q2020
[TRP]
100(J) R2175
100(J) R2172
46HM84/52HM84/62HM84
AV_CONNECTOR
SH. NO.
200

(10/52)



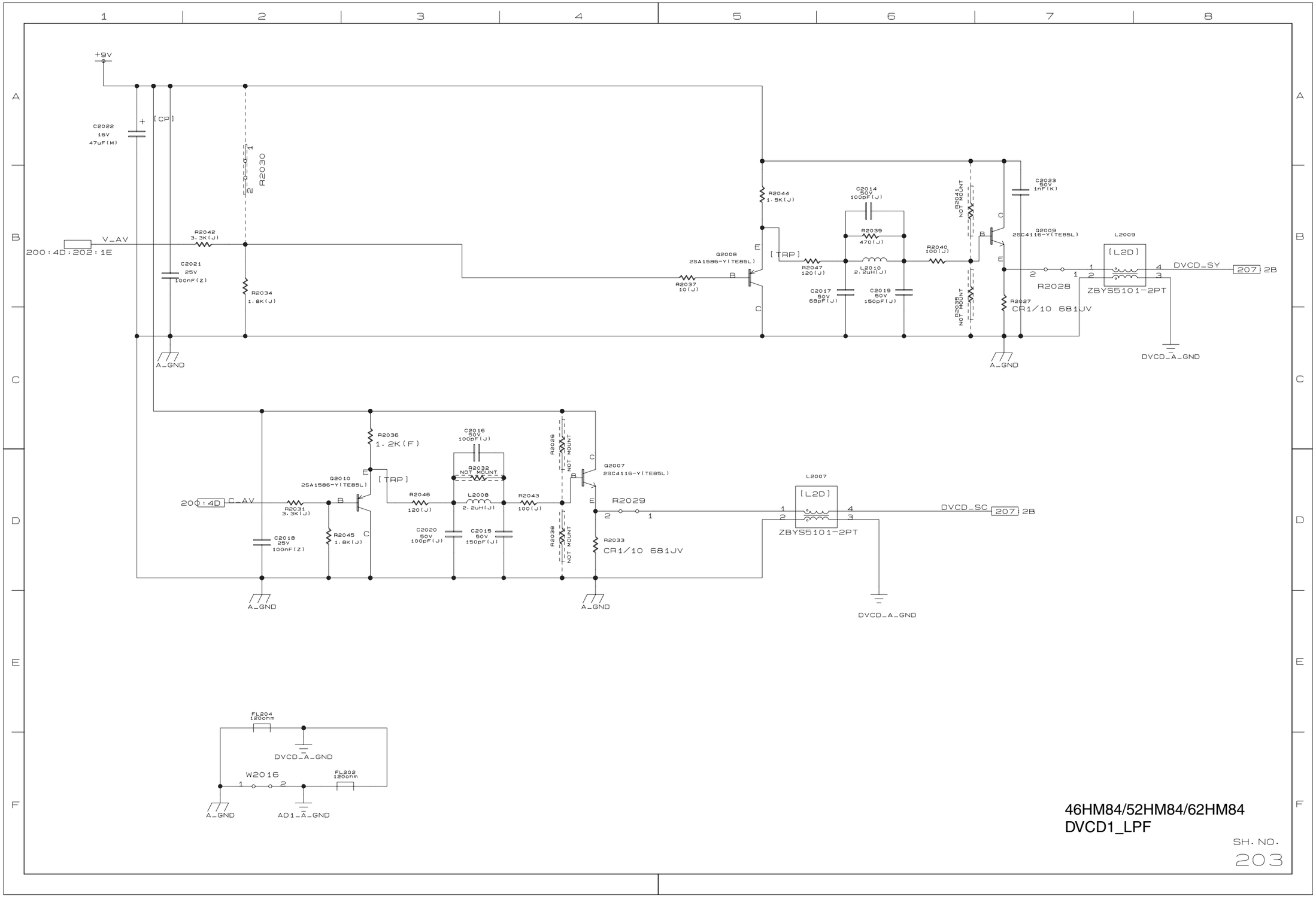
46HM84/52HM84/62HM84
AD_LPF

SH. NO.
201



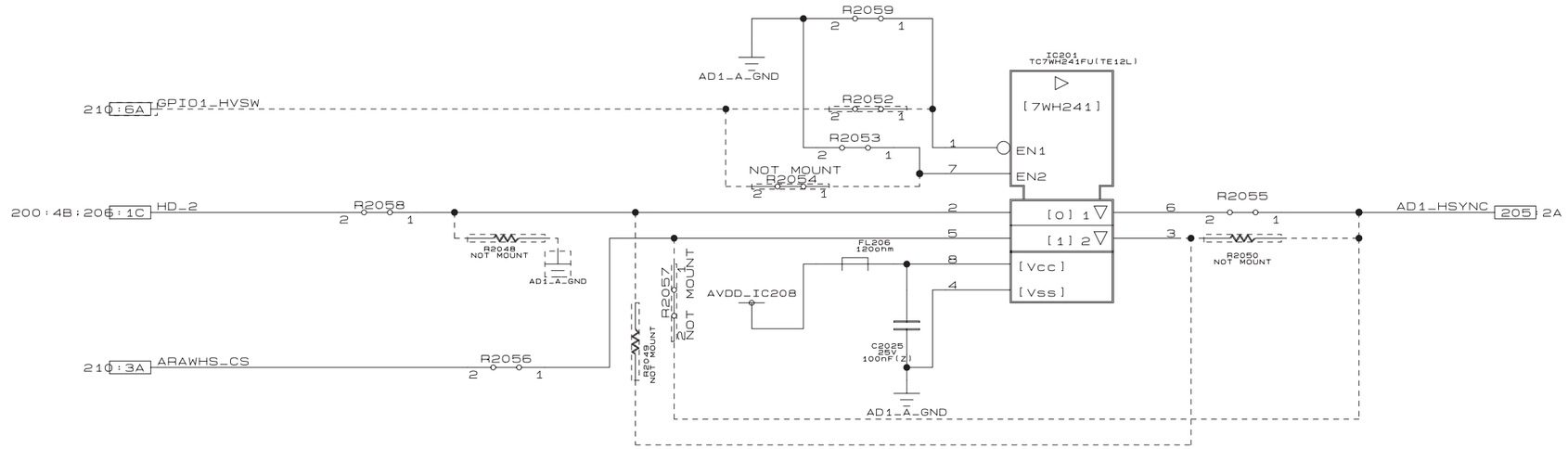
46HM84/52HM84/62HM84
DVCD2_LPF

SH. NO.
202



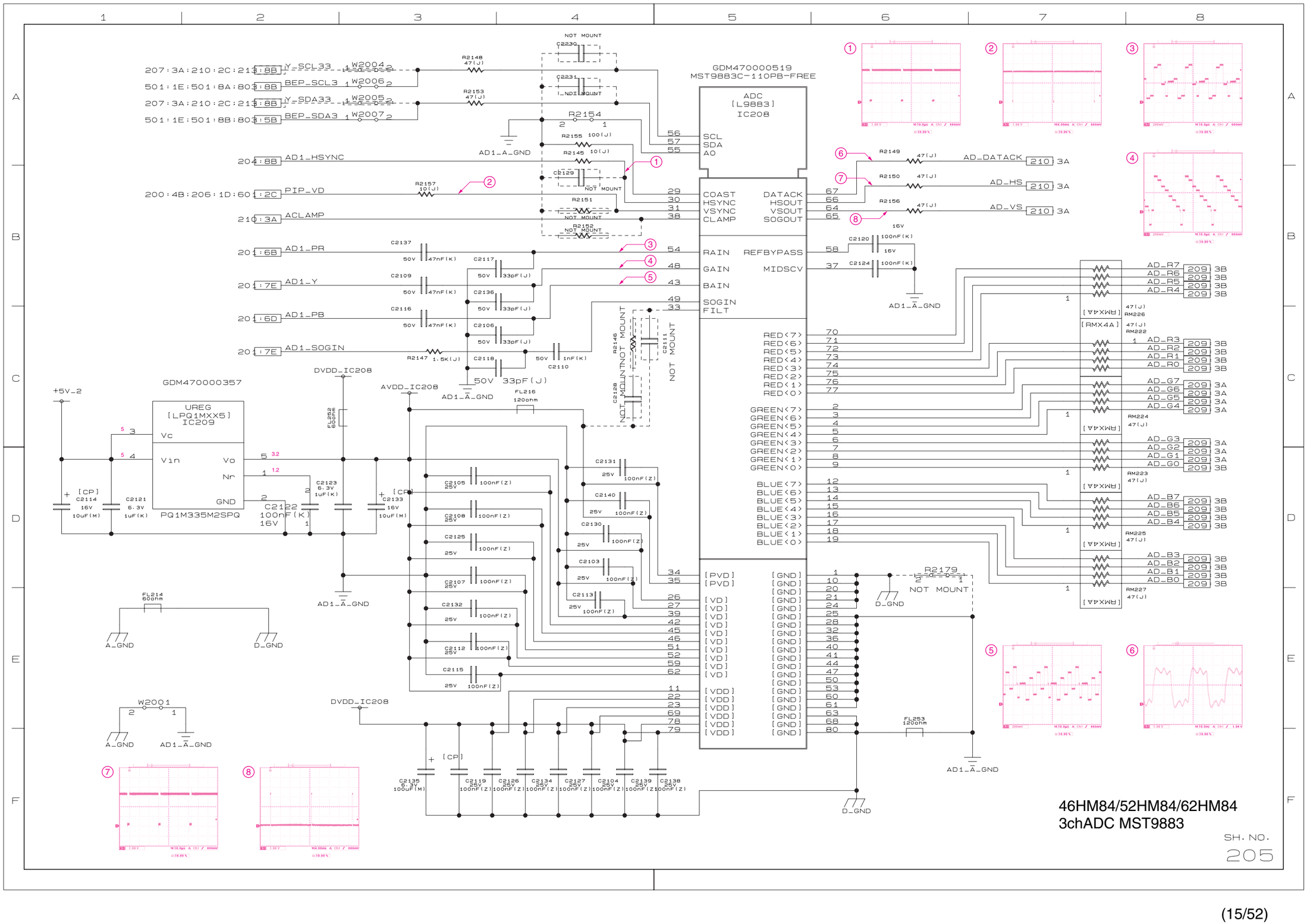
46HM84/52HM84/62HM84
DVCD1_LPF

SH. NO.
203



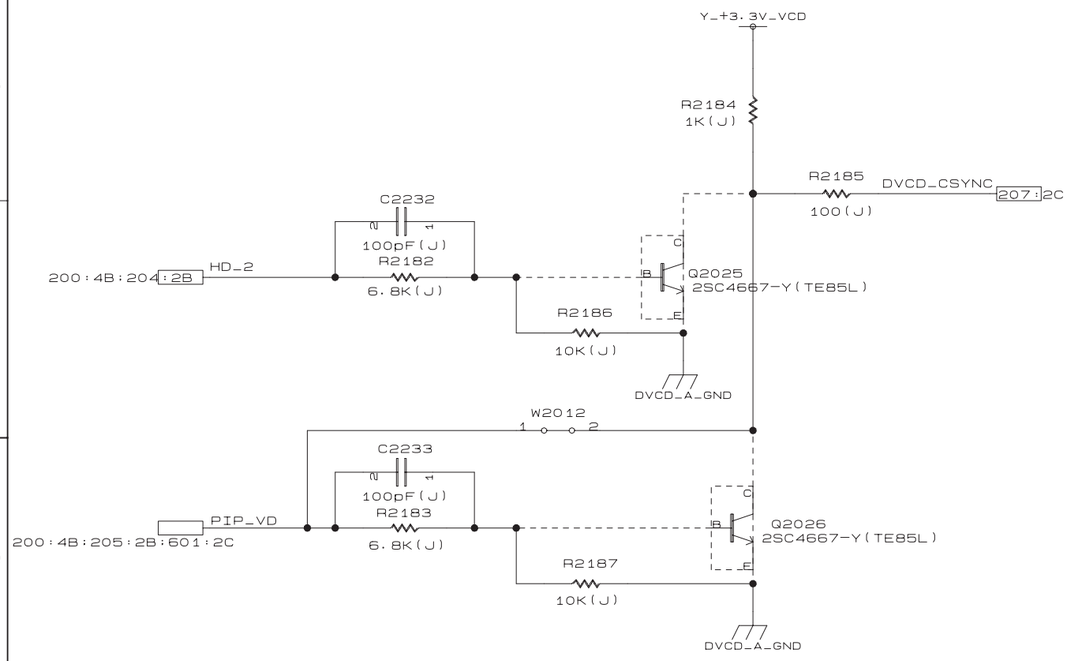
46HM84/52HM84/62HM84
3chADC HD

SH. NO.
204



46HM84/52HM84/62HM84
3chADC MST9883

SH. NO.
205



46HM84/52HM84/62HM84
DVCD CSYNCIN

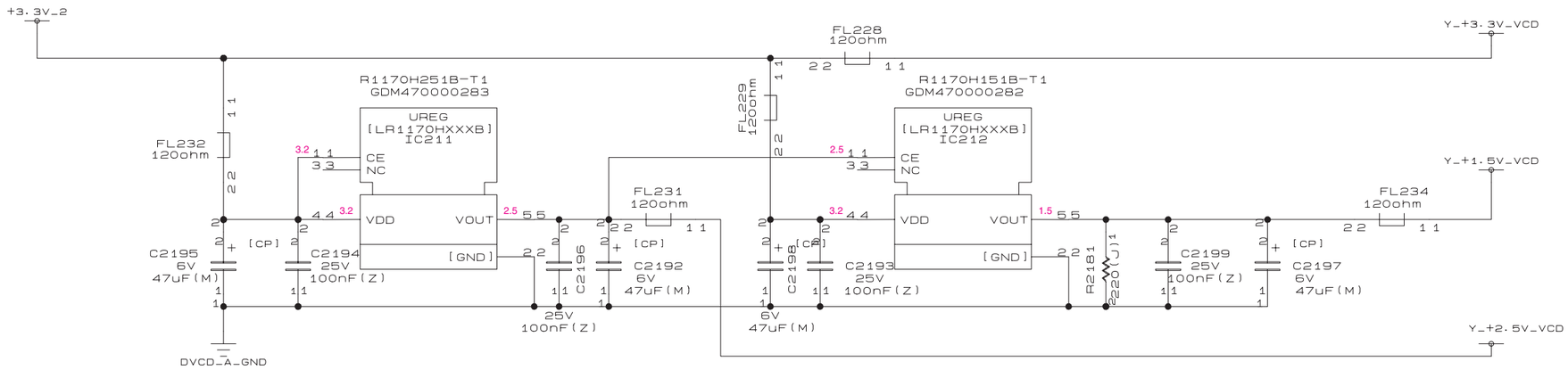
SH. NO.
206

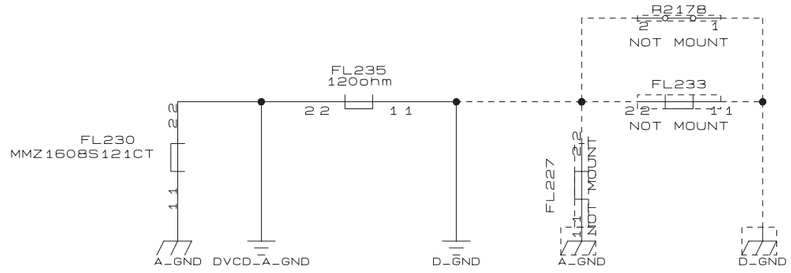
TC90A92AFG(BH.DRY)
GDM450000259

VIDEO DECODER
[U90A92]
IC210

46HM84/52HM84/62HM84
DVCD TC90A92AFG

SH. NO.
207





46HM84/52HM84/62HM84
DVCD POWER

SH. NO.
208

GM6015BD-LF
GDM460000748

[U6015]
IC203

AD_G7 163
AD_G6 164
AD_G5 165
AD_G4 168
AD_G3 169
AD_G2 170
AD_G1 171
AD_G0 172
AD_B7 173
AD_B6 174
AD_B5 175
AD_B4 176
AD_B3 177
AD_B2 178
AD_B1 179
AD_B0 180
AD_R7 181
AD_R6 182
AD_R5 183
AD_R4 186
AD_R3 187
AD_R2 188
AD_R1 189
AD_R0 190

ADATA23 ADATA22 ADATA21 ADATA20 ADATA19 ADATA18 ADATA17 ADATA16
ADATA15 ADATA14 ADATA13 ADATA12 ADATA11 ADATA10 ADATA9 ADATA8
ADATA7 ADATA6 ADATA5 ADATA4 ADATA3 ADATA2 ADATA1 ADATA0

DVCD_DATA7 R2093 16
DVCD_DATA6 R2094 18
DVCD_DATA5 R2095 19
DVCD_DATA4 R2097 20
DVCD_DATA3 R2096 22
DVCD_DATA2 R2098 23
DVCD_DATA1 R2099 24
DVCD_DATA0 R2100 25

DVCD_BDATA15 28
DVCD_BDATA14 29
DVCD_BDATA13 30
DVCD_BDATA12 31
DVCD_BDATA11 32
DVCD_BDATA10 34
DVCD_BDATA9 35
DVCD_BDATA8 36
DVCD_BDATA7 37
DVCD_BDATA6 38
DVCD_BDATA5 39
DVCD_BDATA4 42
DVCD_BDATA3 43
DVCD_BDATA2 44
DVCD_BDATA1 45
DVCD_BDATA0 46

BDATA23 BDATA22 BDATA21 BDATA20 BDATA19 BDATA18 BDATA17 BDATA16
BDATA15 BDATA14 BDATA13 BDATA12 BDATA11 BDATA10 BDATA9 BDATA8
BDATA7 BDATA6 BDATA5 BDATA4 BDATA3 BDATA2 BDATA1 BDATA0

MDO_MD31 96
MDO_MD30 94
MDO_MD29 93
MDO_MD28 92
MDO_MD27 91
MDO_MD26 90
MDO_MD25 88
MDO_MD24 87
MDO_MD23 97
MDO_MD22 98
MDO_MD21 99
MDO_MD20 100
MDO_MD19 101
MDO_MD18 102
MDO_MD17 103
MDO_MD16 104
MDO_MD15 142
MDO_MD14 140
MDO_MD13 139
MDO_MD12 137
MDO_MD11 136
MDO_MD10 135
MDO_MD9 134
MDO_MD8 133
MDO_MD7 143
MDO_MD6 144
MDO_MD5 145
MDO_MD4 148
MDO_MD3 149
MDO_MD2 151
MDO_MD1 152
MDO_MD0 153

RAMADQ31 RAMADQ30 RAMADQ29 RAMADQ28 RAMADQ27 RAMADQ26 RAMADQ25 RAMADQ24
RAMADQ23 RAMADQ22 RAMADQ21 RAMADQ20 RAMADQ19 RAMADQ18 RAMADQ17 RAMADQ16
RAMDQ15 RAMDQ14 RAMDQ13 RAMDQ12 RAMDQ11 RAMDQ10 RAMDQ9 RAMDQ8
RAMDQ7 RAMDQ6 RAMDQ5 RAMDQ4 RAMDQ3 RAMDQ2 RAMDQ1 RAMDQ0

RAMDQ_MSK 132
/RAMWE 131
/RAM_CAS 128
/RAM_RAS 126
/RAMCS 125
RAMBS0 123
RAMBS1 122
RAMCLK 116

RAMADDR10 121
RAMADDR9 113
RAMADDR8 112
RAMADDR7 111
RAMADDR6 110
RAMADDR5 109
RAMADDR4 108
RAMADDR3 107
RAMADDR2 118
RAMADDR1 119
RAMADDR0 120

DDATA0 84
DDATA1 83
DDATA2 81
DDATA3 80
DDATA4 79
DDATA5 78
DDATA6 77
DDATA7 76
DDATA8 75
DDATA9 74
DDATA10 73
DDATA11 72
DDATA12 69
DDATA13 68
DDATA14 67
DDATA15 66
DDATA16 65
DDATA17 64
DDATA18 63
DDATA19 62
DDATA20 61
DDATA21 60
DDATA22 58
DDATA23 57

RM209 47(J) [RMX4A]
LVD_Y0 LVD_Y1 LVD_Y2 LVD_Y3

RM208 47(J) [RMX4A]
LVD_Y4 LVD_Y5 LVD_Y6 LVD_Y7

RM206 47(J) [RMX4A]
LVD_C0 LVD_C1 LVD_C2 LVD_C3

RM205 47(J) [RMX4A]
LVD_C4 LVD_C5 LVD_C6 LVD_C7

RM234 47(J) [RMX4A]
LVD_PR0 LVD_PR1 LVD_PR2 LVD_PR3

RM235 47(J) [RMX4A]
LVD_PR4 LVD_PR5 LVD_PR6 LVD_PR7

RM202 47(J) [RMX4A]
MAO_MA9 MAO_MA8 MAO_MA7

RM203 47(J) [RMX4A]
MAO_MA6 MAO_MA5 MAO_MA4 MAO_MA3

RM201 47(J) [RMX4A]
MAO_MA2 MAO_MA1 MAO_MA0 MAO_MA10

RM207 47(J) [RMX4A]
MAO_DQM MAO_WE MAO_CAS MAO_BAS

RM204 47(J) [RMX4A]
MAO_CS MAO_BS0 MAO_BS1

R2101 47(J)
MAO_MCLK

46HM84/52HM84/62HM84
GENESIS(1/2)
SHEET-1/2

SH. NO.
209

GM6015BD-LF
GDM460000748

[U6015]
IC203

AD_VS
ACLAMP
AD_DATACK
AD_HS
ARAWHS_CS

GENESIS_VDD_3.3V
CSS_3.3V

BSOG+
BSOG-
ASOG-
ASOG+
NOT MOUNT

DVCD_VD
BCLAMP
DVCD_HD
DVCD_BCLK
Y_SCL33
Y_SDA33
Y_RESET
G_IRQ

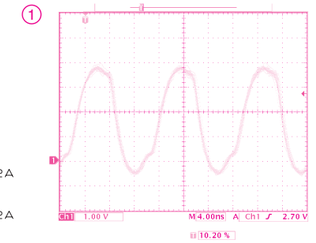
D_GND
CSS_GND
PLL_GND
AVDD_3.3

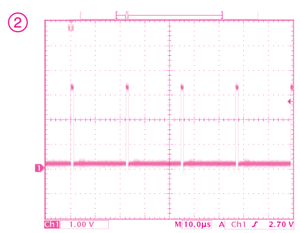
GDM1000000113
X2001
14.31818MHz

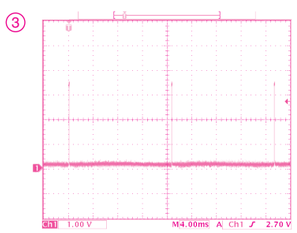
GPIO1_HVSW
LVD_CLK
LVD_HS
LVD_VS
LVD_VS_BEPMCU

MEMI/O_3.3
MEMI/O_CVDD_2.5
CVDD_2.5

[CP]

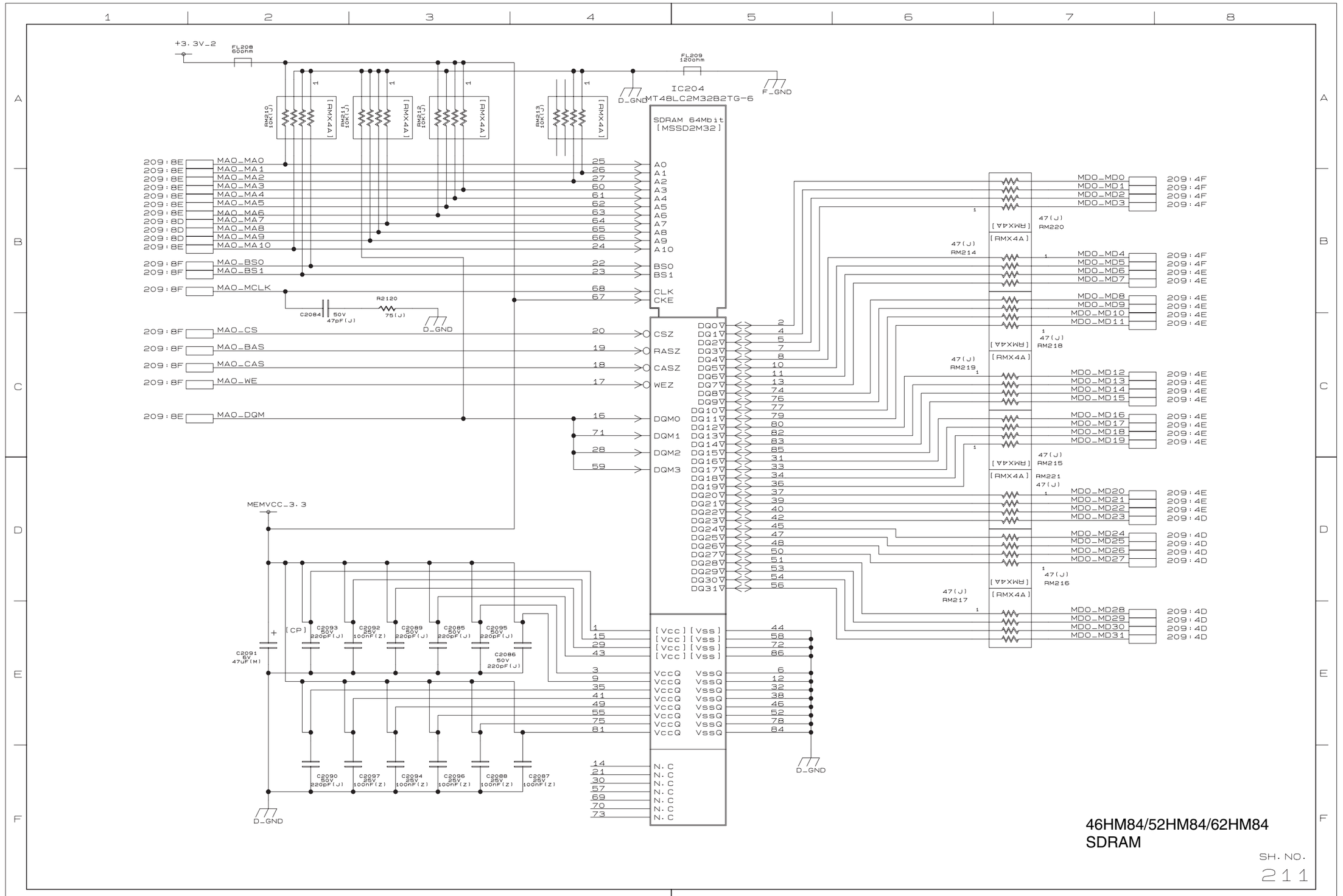






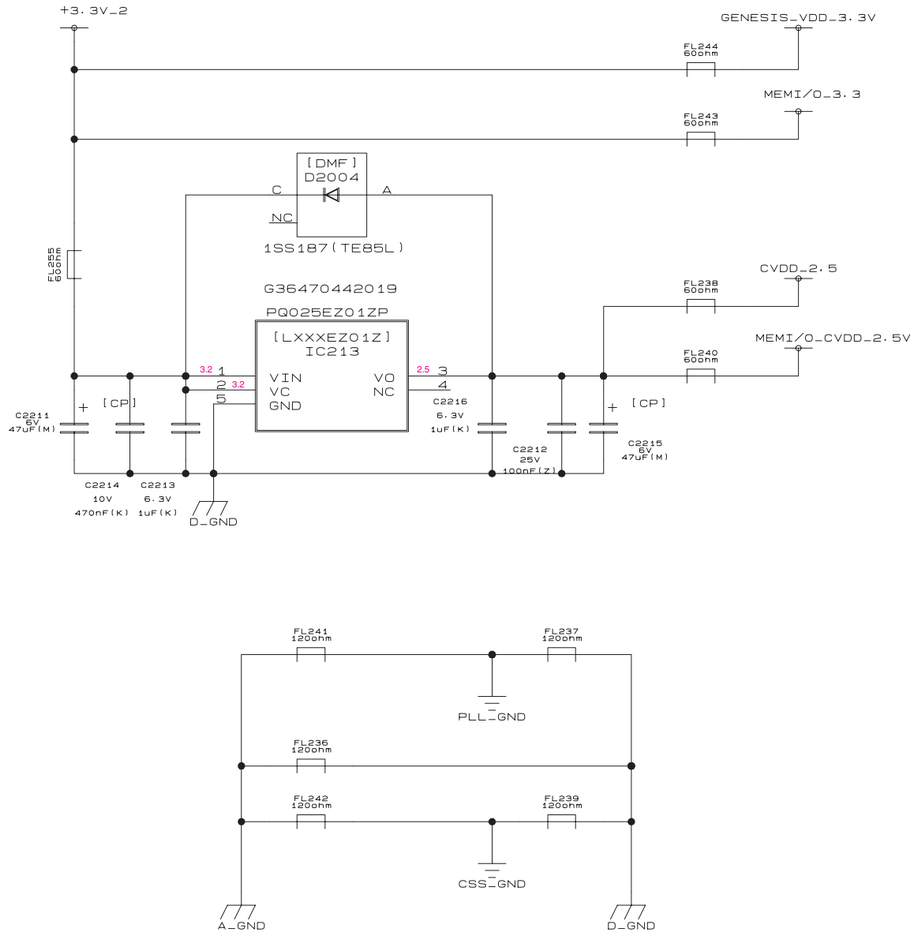
46HM84/52HM84/62HM84
GENESIS (2/2)
SHEET-2/2

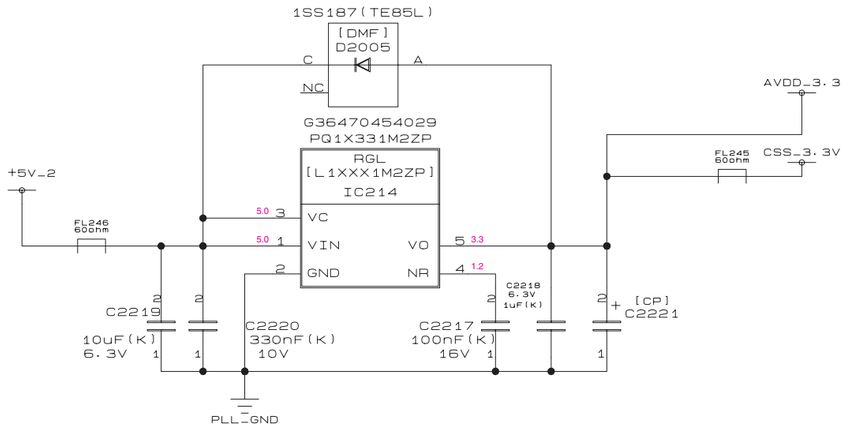
SH. NO.
210



46HM84/52HM84/62HM84
SDRAM

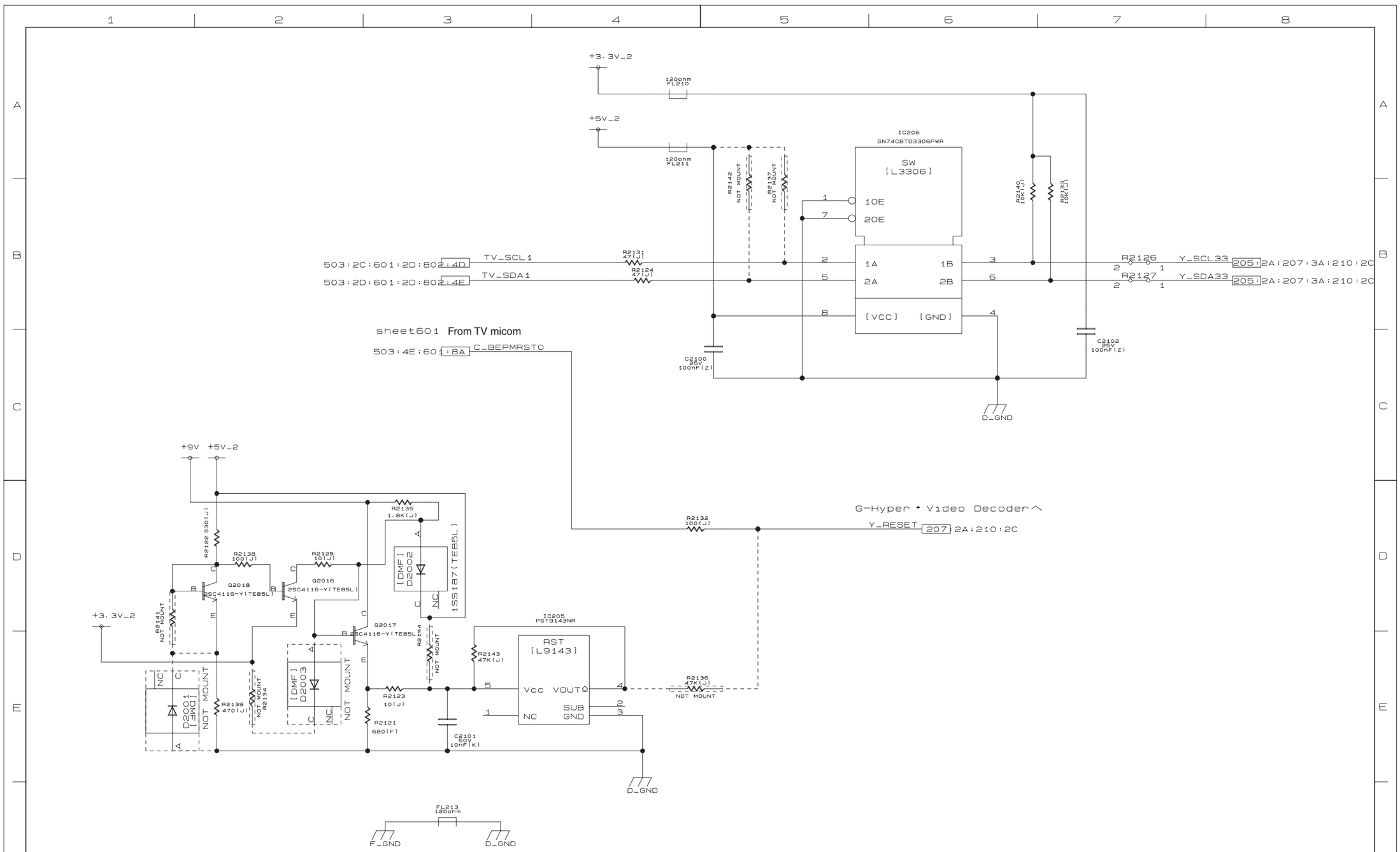
SH. NO.
211





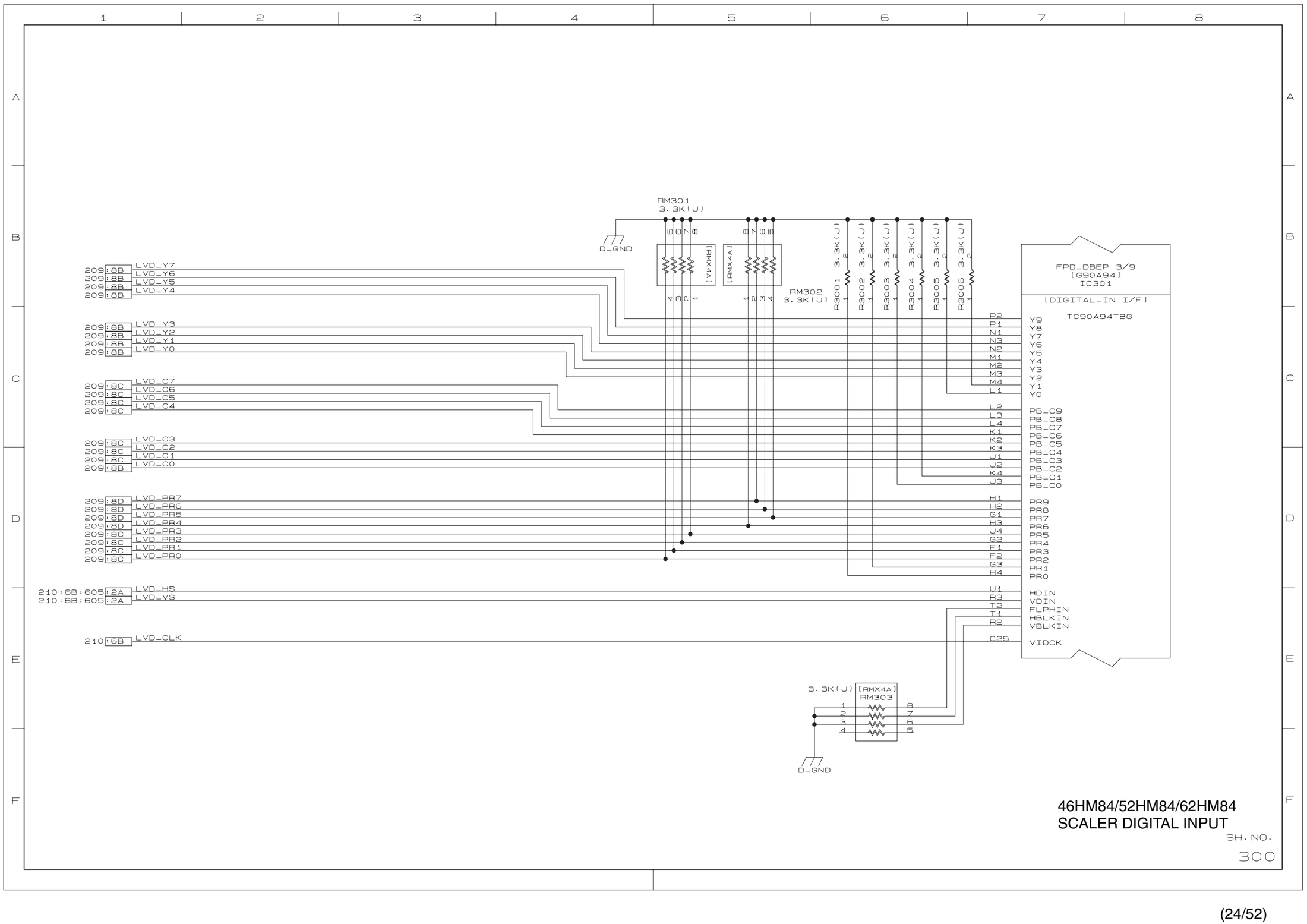
46HM84/52HM84/62HM84
GENESIS_POWER

SH. NO.
212



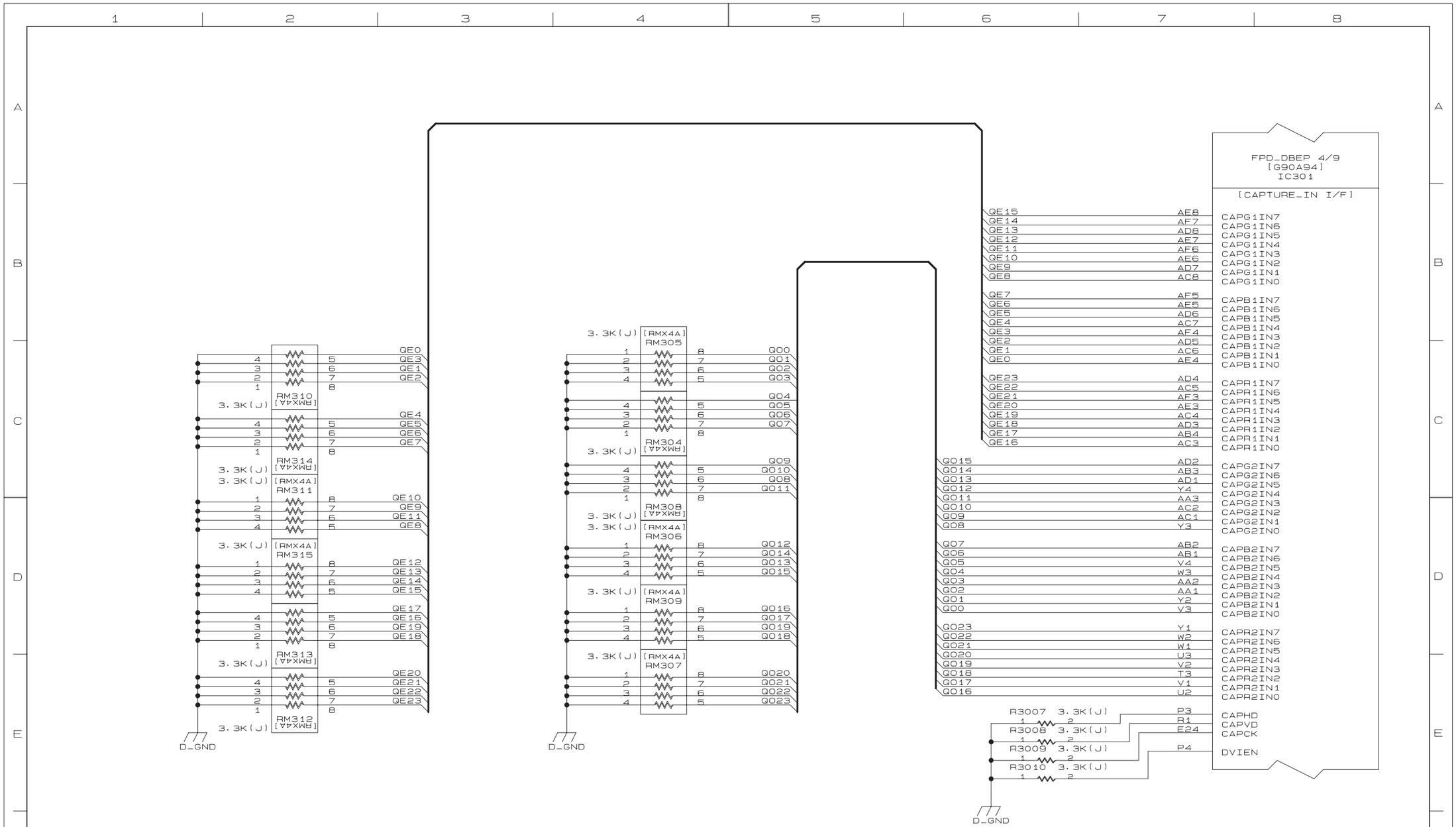
46HM84/52HM84/62HM84
GENESIS_IIC

SH. NO.
213



46HM84/52HM84/62HM84
SCALER DIGITAL INPUT

SH. NO.
300



46HM84/52HM84/62HM84
SCALER CAPTURE INPUT

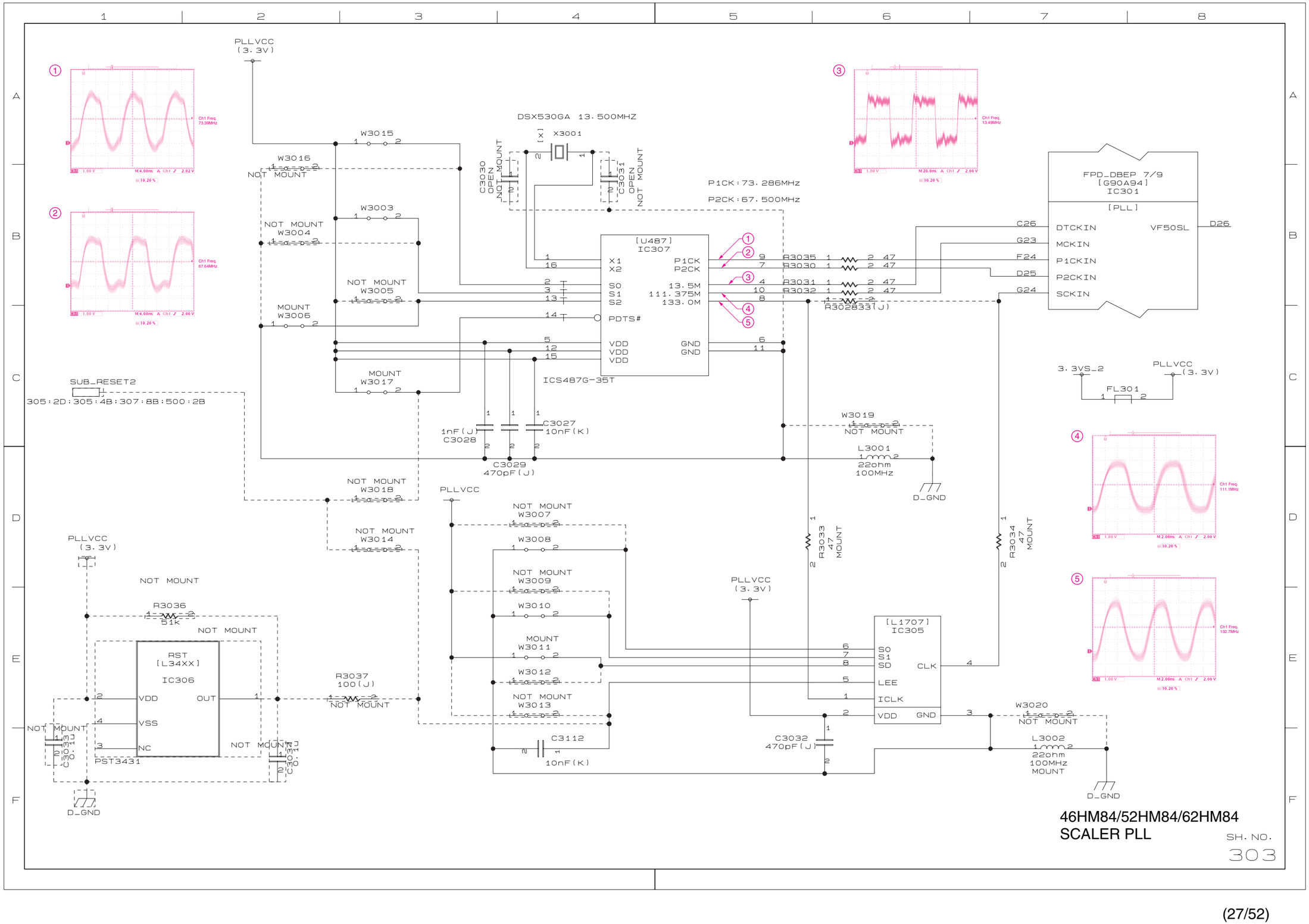
SH. NO.
301

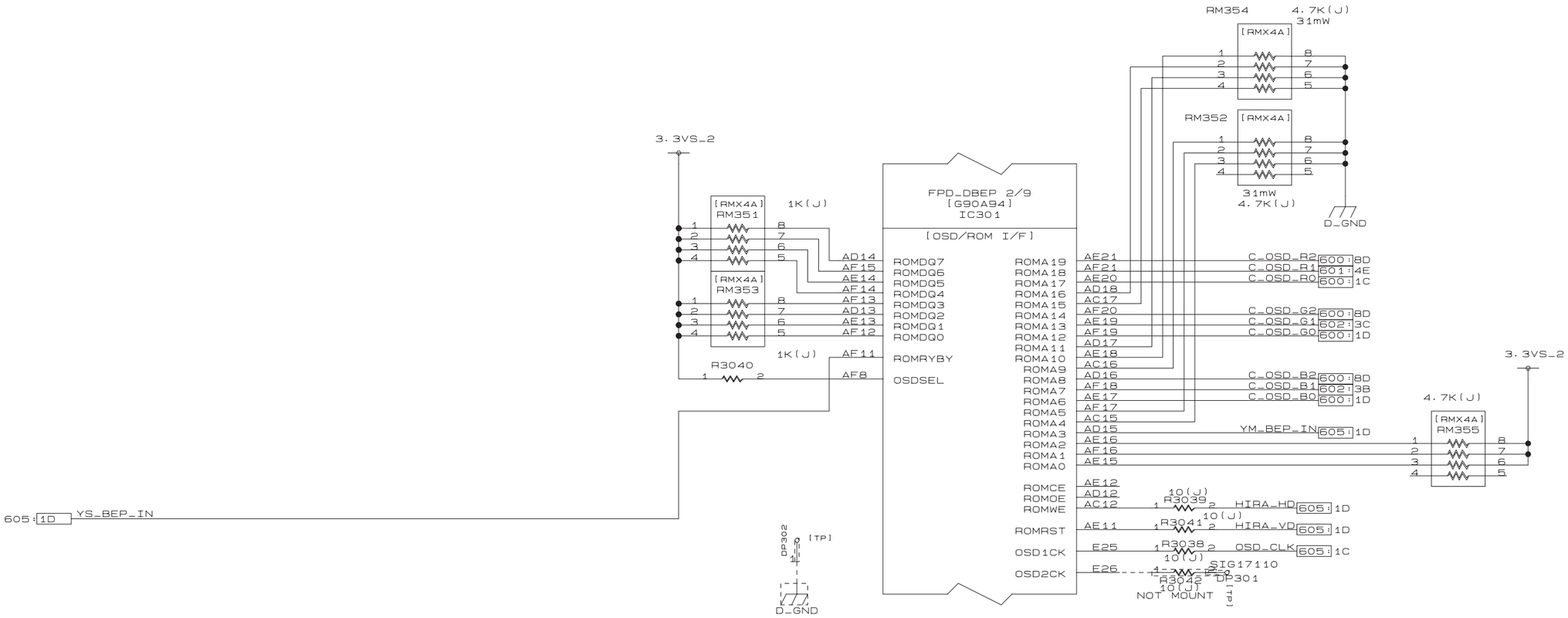
FPD_DBEP 6/9
[G90A94]
IC301
[SDRAM I/F]

DDR SDRAM
128Mbit
[MDSD4M32]
IC302
K4D263238F-UC50

REG.
[L2995]
IC303

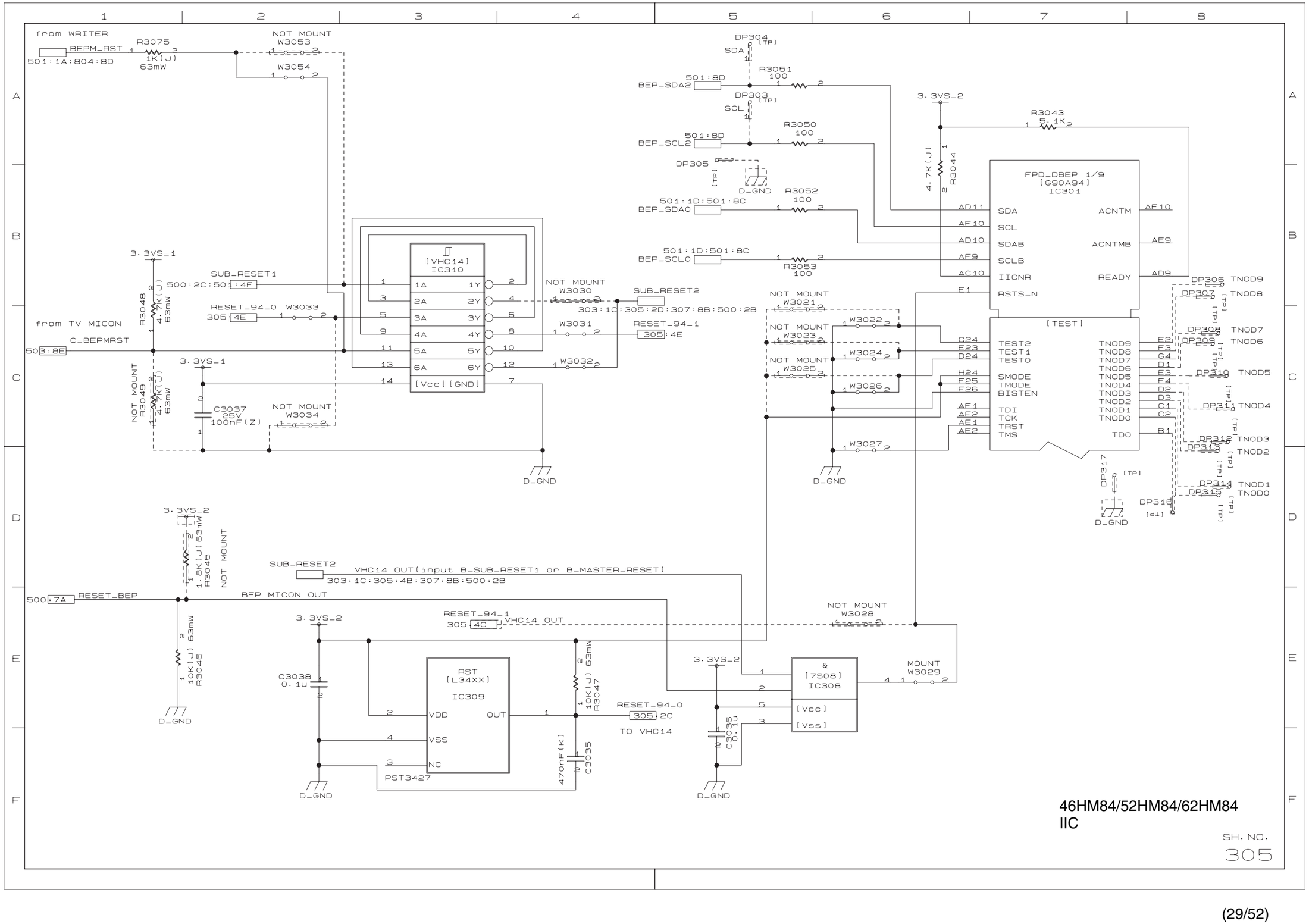
46HM84/52HM84/62HM84 SH. NO.
DDR SDRAM 302


PLLVCC (3.3V)
DSX530GA 13.500MHZ
X3001
C3030 OPEN NOT MOUNT
C3031 OPEN NOT MOUNT
W3015
W3016 NOT MOUNT
W3003
NOT MOUNT W3004
NOT MOUNT W3005
MOUNT W3006
MOUNT W3017
P1CK : 73.286MHz
P2CK : 67.500MHz
[U487] IC307
X1
X2
SO
S1
S2
PDTS#
VDD
VDD
VDD
P1CK
P2CK
13.5M
111.375M
133.0M
GND
GND
ICS487G-35T
R3035 47
R3030 47
R3031 47
R3032 47
R3028 33(J)
FPD_DBEP 7/9 [G90A94] IC301
[PLL]
DTCKIN
MCKIN
P1CKIN
P2CKIN
SCKIN
VF50SL
C26
G23
F24
D25
G24
D26
3.3VS_2
PLLVCC (3.3V)
FL301
SUB_RESET2
305:2D:305:4B:307:8B:500:2B
C3027 10nF(K)
1nF(J) C3028
C3029 470pF(J)
W3019 NOT MOUNT
L3001 22ohm 100MHz
D_GND
NOT MOUNT W3018
NOT MOUNT W3014
PLLVCC
NOT MOUNT W3007
W3008
NOT MOUNT W3009
W3010
MOUNT W3011
W3012
NOT MOUNT W3013
C3112 10nF(K)
R3033 47 MOUNT
R3034 47 MOUNT
PLLVCC (3.3V)
[L1707] IC305
SO
S1
SD
LEE
ICLK
VDD
CLK
GND
C3032 470pF(J)
W3020 NOT MOUNT
L3002 22ohm 100MHz MOUNT
D_GND
PLLVCC (3.3V)
NOT MOUNT
R3036 51K
NOT MOUNT
RST [L34XX] IC306
VDD
VSS
NC
OUT
PST3431
NOT MOUNT C3033 0.1U
NOT MOUNT C3034 0.1U
R3037 100(J) NOT MOUNT
D_GND
46HM84/52HM84/62HM84
SCALER PLL
SH. NO.
303



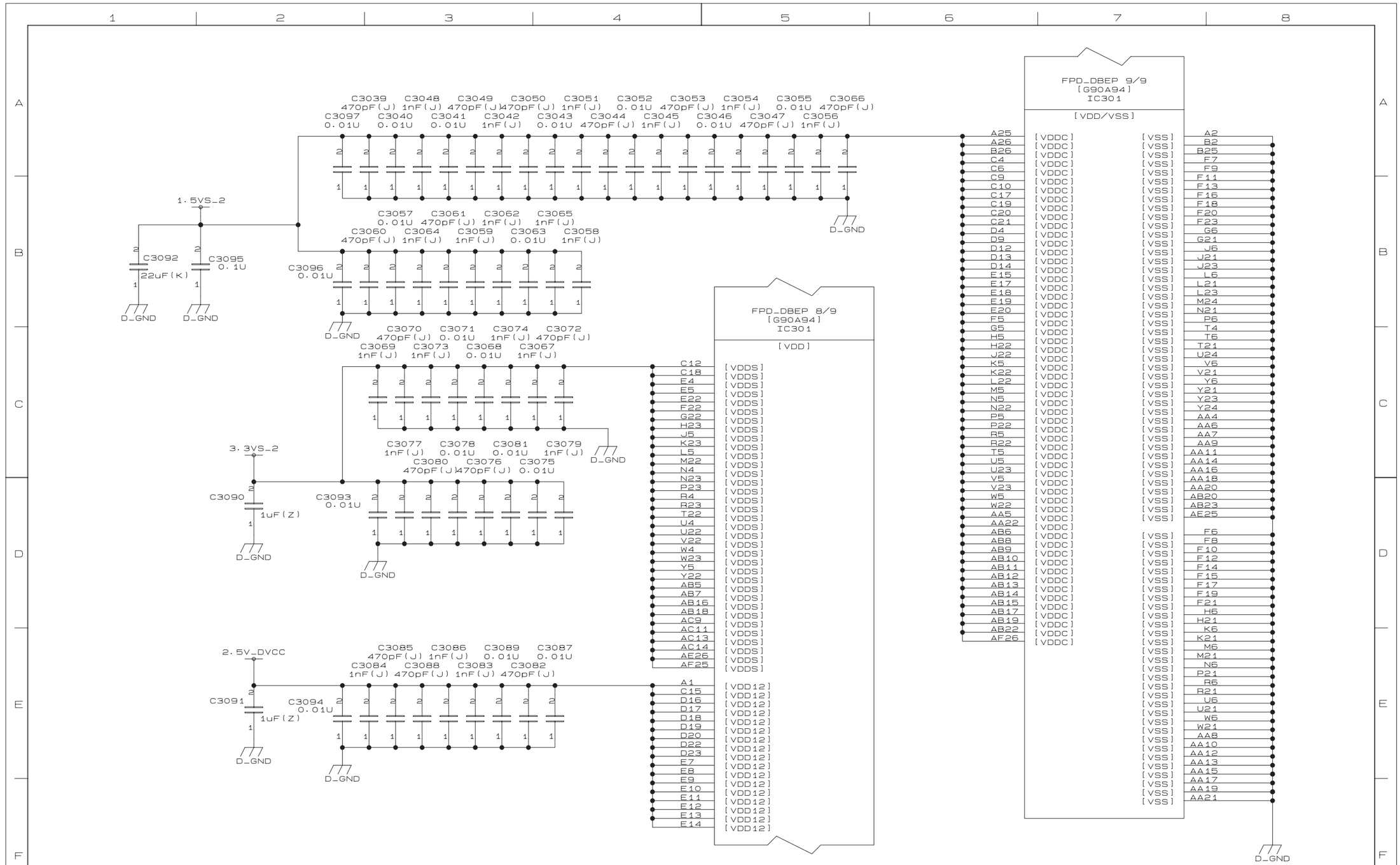
46HM84/52HM84/62HM84
OSD for North America

SH. NO.
304



46HM84/52HM84/62HM84
IIC

SH. NO.
305


FPD_DBEP 9/9
[G90A94]
IC301
[VDD/VSS]
FPD_DBEP 8/9
[G90A94]
IC301
[VDD]
C3039 C3048 C3049 C3050 C3051 C3052 C3053 C3054 C3055 C3066
470pF(J) 1nF(J) 470pF(J) 470pF(J) 1nF(J) 0.01U 470pF(J) 1nF(J) 0.01U 470pF(J)
C3097 C3040 C3041 C3042 C3043 C3044 C3045 C3046 C3047 C3056
0.01U 0.01U 0.01U 1nF(J) 0.01U 470pF(J) 1nF(J) 0.01U 470pF(J) 1nF(J)
1.5VS_2
C3092
22uF(K)
C3095
0.1U
D_GND
C3057 C3061 C3062 C3065
0.01U 470pF(J) 1nF(J) 1nF(J)
C3060 C3064 C3059 C3063 C3058
470pF(J) 1nF(J) 1nF(J) 0.01U 1nF(J)
C3096
0.01U
C3070 C3071 C3074 C3072
470pF(J) 0.01U 1nF(J) 470pF(J)
C3069 C3073 C3068 C3067
1nF(J) 1nF(J) 0.01U 1nF(J)
C3077 C3078 C3081 C3079
1nF(J) 0.01U 0.01U 1nF(J)
C3080 C3076 C3075
470pF(J) 470pF(J) 0.01U
3.3VS_2
C3090
1uF(Z)
C3093
0.01U
C3085 C3086 C3089 C3087
470pF(J) 1nF(J) 0.01U 0.01U
C3084 C3088 C3083 C3082
1nF(J) 470pF(J) 1nF(J) 470pF(J)
2.5V_DVCC
C3091
1uF(Z)
C3094
0.01U
C12 C18 E4 E5 E22 F22 G22 H23 J5 K23 L5 M22 N4 N23 P23 R4 R23 T22 U4 U22 V22 W4 W23 Y5 Y22 AB5 AB7 AB16 AB18 AC9 AC11 AC13 AC14 AE26 AF25 [VDDS]
A1 C15 D16 D17 D18 D19 D20 D22 D23 E7 E8 E9 E10 E11 E12 E13 E14 [VDD12]
A25 A26 B26 C4 C6 C9 C10 C17 C19 C20 C21 D4 D9 D12 D13 D14 E15 E17 E18 E19 E20 F5 G5 H5 H22 J22 K5 K22 L22 M5 N5 N22 P5 P22 R5 R22 T5 U5 U23 V5 V23 W5 W22 AA5 AA22 AB6 AB8 AB9 AB10 AB11 AB12 AB13 AB14 AB15 AB17 AB19 AB22 AF26 [VDDC]
A2 B2 B25 F7 F9 F11 F13 F16 F18 F20 F23 G6 G21 J6 J21 J23 L6 L21 L23 M24 N21 P6 T4 T6 T21 U24 V6 V21 Y6 Y21 Y23 Y24 AA4 AA6 AA7 AA9 AA11 AA14 AA16 AA18 AA20 AB20 AB23 AE25 [VSS]
F6 F8 F10 F12 F14 F15 F17 F19 F21 H6 H21 K6 K21 M6 M21 N6 P21 R6 R21 U6 U21 W6 W21 AA8 AA10 AA12 AA13 AA15 AA17 AA19 AA21 [VSS]
D_GND
46HM84/52HM84/62HM84
94TB POWER
SH. NO.
306

L : Phase 1
H: Phase 2

FPD_DBEP 5/9
[G90A94]
IC301

[PANEL I/F]

AD20 OUTPHASE
AE22 PANELSETUP3
AF22 PANELSETUP2
AC18 PANELSETUP1
AD19 PANELSETUP0

G1OUT9 G25
G1OUT8 J24
G1OUT7 G26
G1OUT6 H25
G1OUT5 H26
G1OUT4 K24
G1OUT3 J25
G1OUT2 L24
G1OUT1 J26
G1OUT0 K25

B1OUT9 K26
B1OUT8 M23
B1OUT7 L25
B1OUT6 L26
B1OUT5 M25
B1OUT4 N24
B1OUT3 M26
B1OUT2 N25
B1OUT1 N26
B1OUT0 P26

R1OUT9 P24
R1OUT8 P25
R1OUT7 R26
R1OUT6 R25
R1OUT5 R24
R1OUT4 T26
R1OUT3 T25
R1OUT2 T24
R1OUT1 T23
R1OUT0 U26

G2OUT9 U25
G2OUT8 V26
G2OUT7 V25
G2OUT6 V24
G2OUT5 W26
G2OUT4 W25
G2OUT3 Y26
G2OUT2 W24
G2OUT1 Y25
G2OUT0 AA26

B2OUT9 AA25
B2OUT8 AB26
B2OUT7 AB25
B2OUT6 AA24
B2OUT5 AC26
B2OUT4 AB24
B2OUT3 AA23
B2OUT2 AC25
B2OUT1 AC24
B2OUT0 AD26

R2OUT9 AD25
R2OUT8 AC23
R2OUT7 AD24
R2OUT6 AB21
R2OUT5 AC22
R2OUT4 AD23
R2OUT3 AE24
R2OUT2 AC21
R2OUT1 AD22
R2OUT0 AF24

CKPANEL AC20
HDOUT AD21
VDOUT AE23
DEOUT AF23
PARITY AC19

NOT MOUNT 4.7K(J) R3054 3.3VS_2
NOTMOU 4.7K(J) R3055
R3056 NOT MOUNT 3.3VS_2
R3057 4.7K(J)
R3058 NOT MOUNT
R3059 NOT MOUNT
4.7K(J) R3060
NOT MOUNT R3061
R3062 4.7K(J)
R3063 4.7K(J)
D_GND

[RMX4A] RM356 33(J)
1 G25 8 G1OUT9
2 J24 7 G1OUT8
3 G26 6 G1OUT7
4 H25 5 G1OUT6

[RMX4A] RM357 33(J)
1 K25 8 G1OUT5
2 K26 7 G1OUT4
3 M23 6 G1OUT3
4 L25 5 G1OUT2

[RMX4A] RM358 33(J)
1 L26 8 G1OUT1
2 M25 7 G1OUT0
3 N25 6 B1OUT9
4 N26 5 B1OUT8

[RMX4A] RM359 33(J)
1 P24 8 B1OUT7
2 P25 7 B1OUT6
3 R26 6 B1OUT5
4 R25 5 B1OUT4

[RMX4A] RM360 33(J)
1 R24 8 B1OUT3
2 T26 7 B1OUT2
3 T25 6 B1OUT1
4 T24 5 B1OUT0

[RMX4A] RM361 33(J)
1 T23 8 R1OUT9
2 U26 7 R1OUT8
3 U25 6 R1OUT7
4 V26 5 R1OUT6

[RMX4A] RM362 33(J)
1 V25 8 R1OUT5
2 V24 7 R1OUT4
3 W26 6 R1OUT3
4 W25 5 R1OUT2

[RMX4A] RM363 33(J)
1 Y26 8 R1OUT1
2 W24 7 R1OUT0
3 Y25 6
4 AA26 5

33(J) R3069 CKPANEL
R3070 HDOUT
R3071 VDOUT
R3072 DEOUT

3.3VS_2 NOT MOUNT 4.7K(J) R3066 R3065 4.7K(J) D_GND
4.7K(J) R3067 R3068 NOT MOUNT D_GND
R3064 4.7K(J) NOT MOUNT

MOUNT W3036 PWDN_MUTE 500:5D
NOT MOUNT W3035 SUB_RESET2 303:1C:305:2D:305:4B:500:2B

LVDS TRANSMITTER
[U103]
IC311

/PDWN 13
RS 43
R/F 60
for SHARP
(SELLVDS HIGH)

R1OUT4 33
R1OUT5 34
R1OUT6 35
R1OUT7 36
R1OUT8 37
R1OUT9 38
G1OUT4 40
G1OUT5 41
G1OUT6 42
G1OUT7 44
G1OUT8 45
G1OUT9 46
B1OUT4 48
B1OUT5 49
B1OUT6 50
B1OUT7 52
B1OUT8 53
B1OUT9 54
HDOUT 55
VDOUT 57
DEOUT 58
R1OUT2 59
R1OUT3 61
G1OUT2 62
G1OUT3 63
B1OUT2 64
B1OUT3 1
R1OUT0 4
R1OUT1 5
G1OUT0 6
G1OUT1 8
B1OUT0 9
B1OUT1 11
CKPANEL 12
27
15
7
51

TA0 TA1 TA2 TA3 TA4 TA5 TA6
TB0 TB1 TB2 TB3 TB4 TB5 TB6
TC0 TC1 TC2 TC3 TC4 TC5 TC6
TD0 TD1 TD2 TD3 TD4 TD5 TD6
TE0 TE1 TE2 TE3 TE4 TE5 TE6
CLKIN

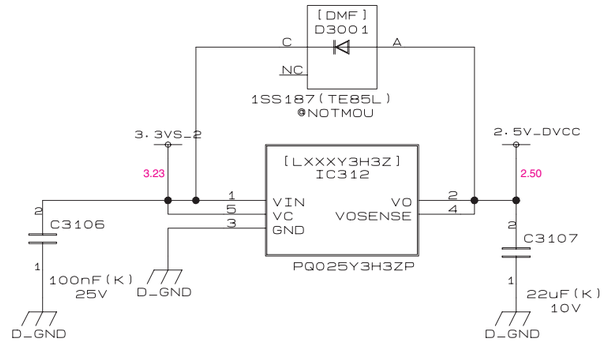
[LVDSVCC] [LVDSGND] [LVDSGND] [LVDSGND]
[PLLVCC] [PLLGND]
[VCC] [VCC] [GND] [GND] [GND] [GND] [GND] [GND]

TA+ 30 [FL09B] FL302 RX0+1 309:1C
TA− 31 RX0−1 309:1B
ACM2012-201-2P-T
TB+ 28 [FL09B] FL303 RX1+1 309:1C
TB− 29 RX1−1 309:1C
TC+ 24 [FL09B] FL304 RX2+1 309:1C
TC− 25 RX2−1 309:1C
TD+ 20 [FL09B] FL305 RX3+1 309:1D
TD− 21 RX3−1 309:1D
TE+ 18 [FL09B] FL306 RX4+1 309:1D
TE− 19 RX4−1 309:1D
TCLK+ 22 [FL09B] FL307 RXCLK+1 309:1D
TCLK− 23 RXCLK−1 309:1C

3.3VS_2 100MHz 220nH L3004 C3099 470pF(J) C3102 10nF(K) D_GND
3.3VS_2 100MHz 220nH L3003 C3100 470pF(J) C3103 C3101 470pF(J) C3104 C3098 470pF(J) C3105 10nF(K) 50V D_GND

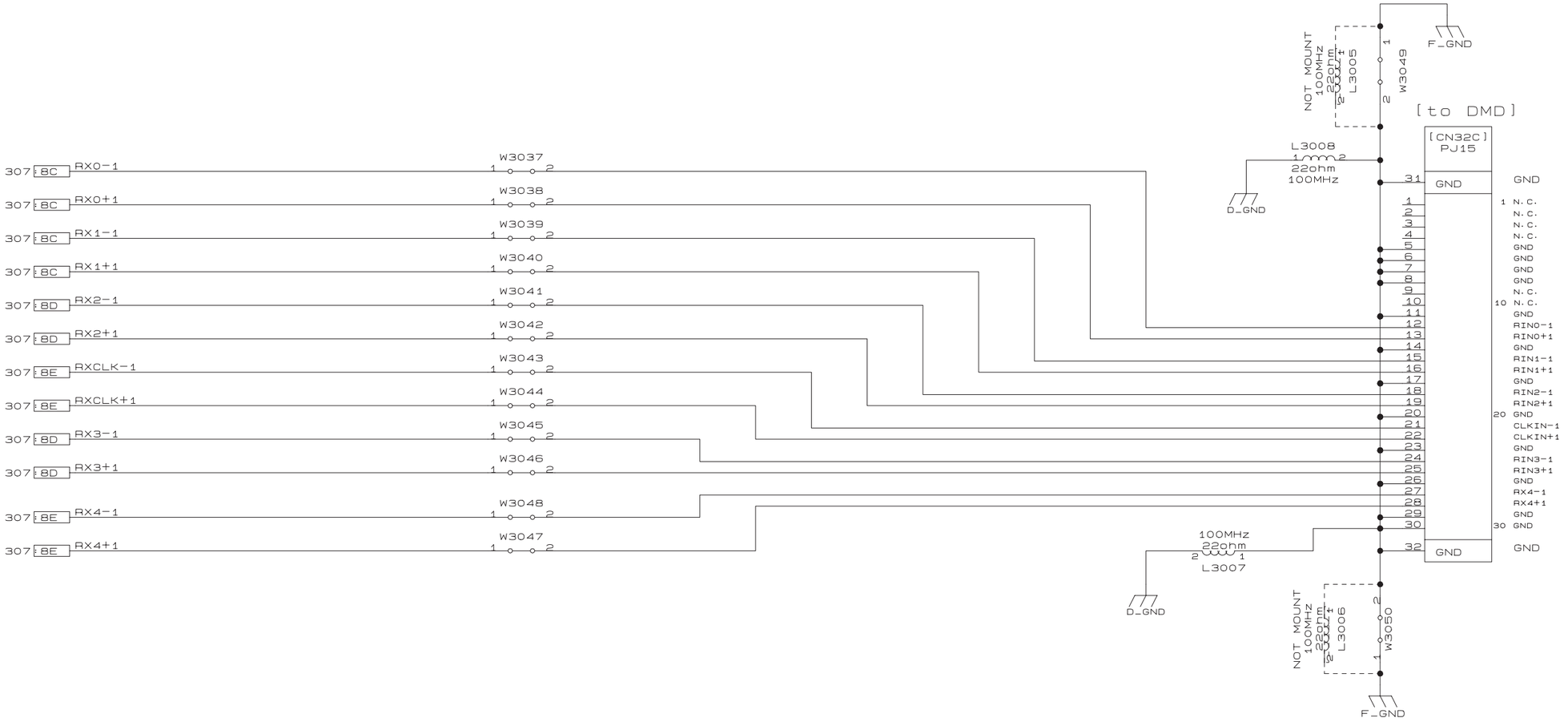
④ ③ ② ①

46HM84/52HM84/62HM84 SH. NO.
LVDS OUT 307



46HM84/52HM84/62HM84
Power (3.3V_2 to 2.5V_DVCC)

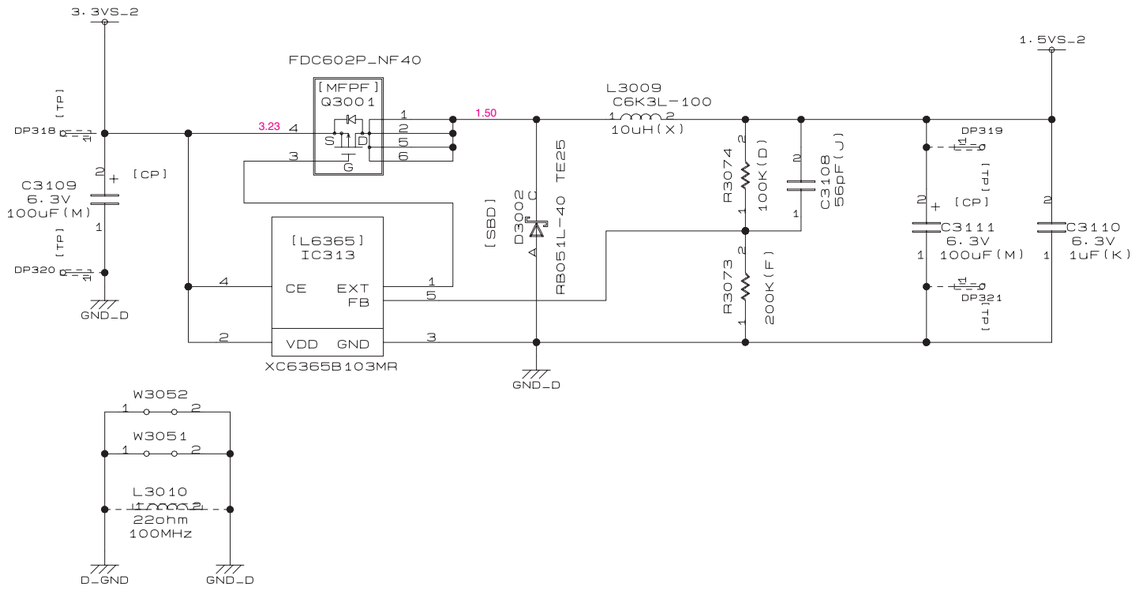
SH. NO.
308



46HM84/52HM84/62HM84
LVDS OUT CONNECTOR

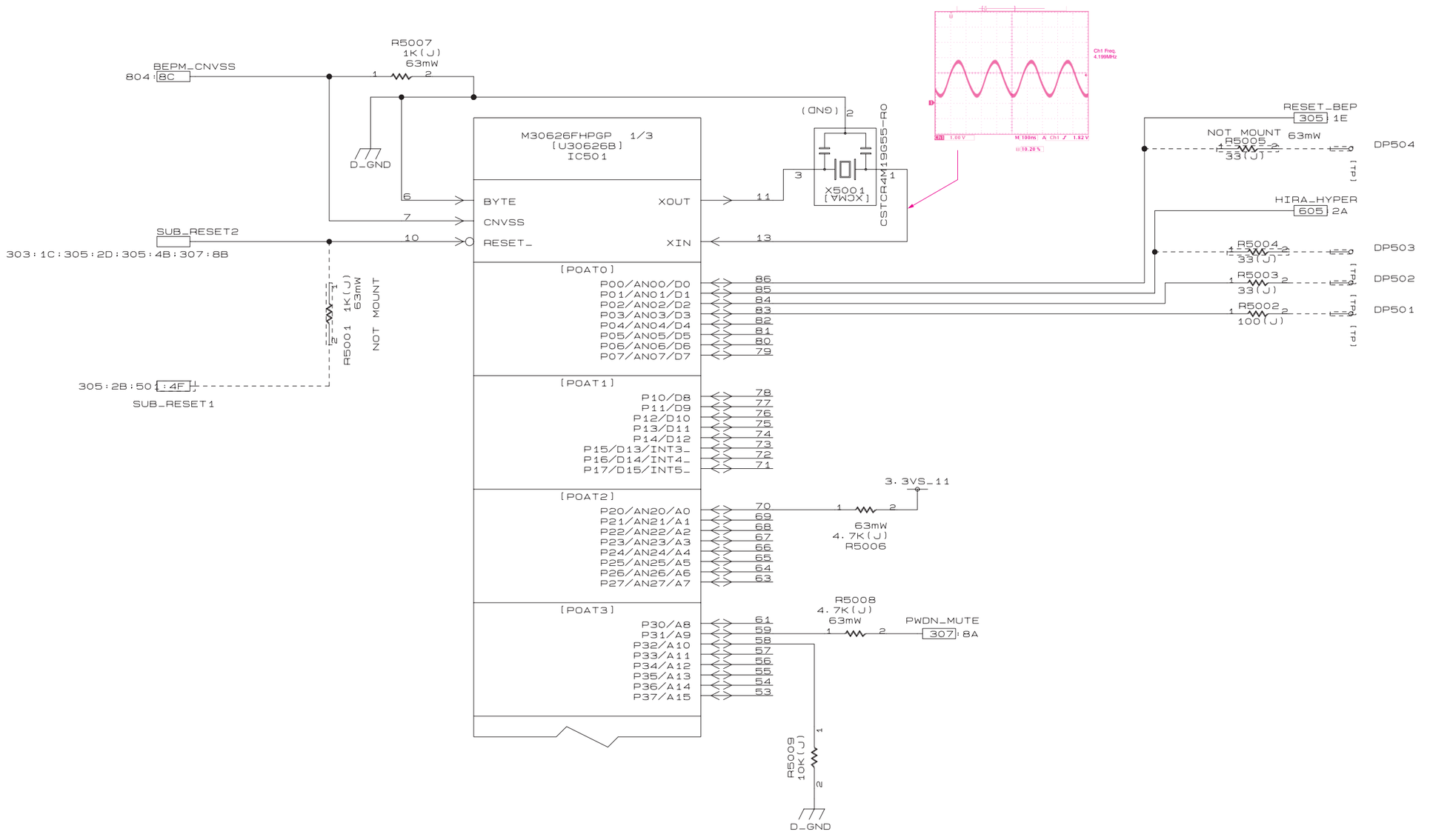
SH. NO.

309



46HM84/52HM84/62HM84
DC/DC CONVERTER

SH. NO.
310



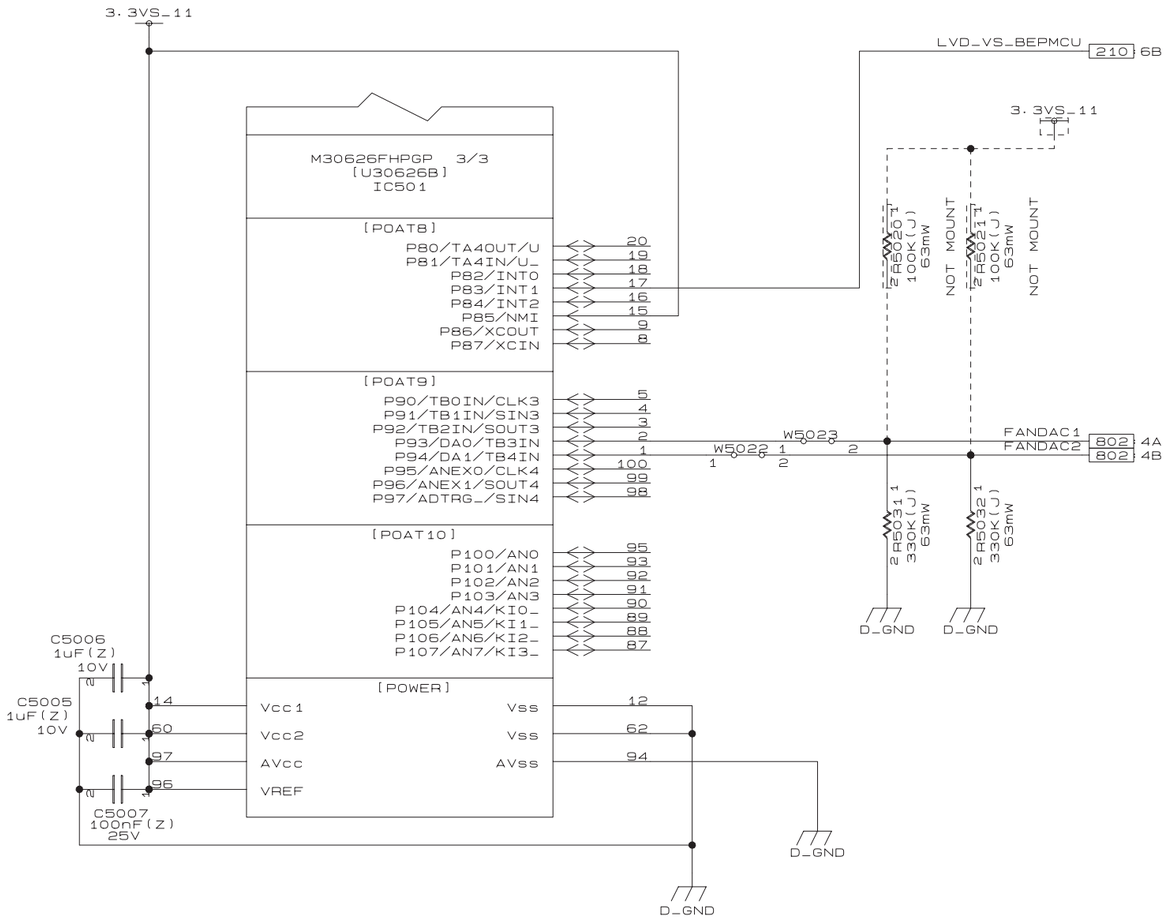
46HM84/52HM84/62HM84
SUB MICON (1/3)
SHEET-1/3

SH. NO.
500

5T03655D

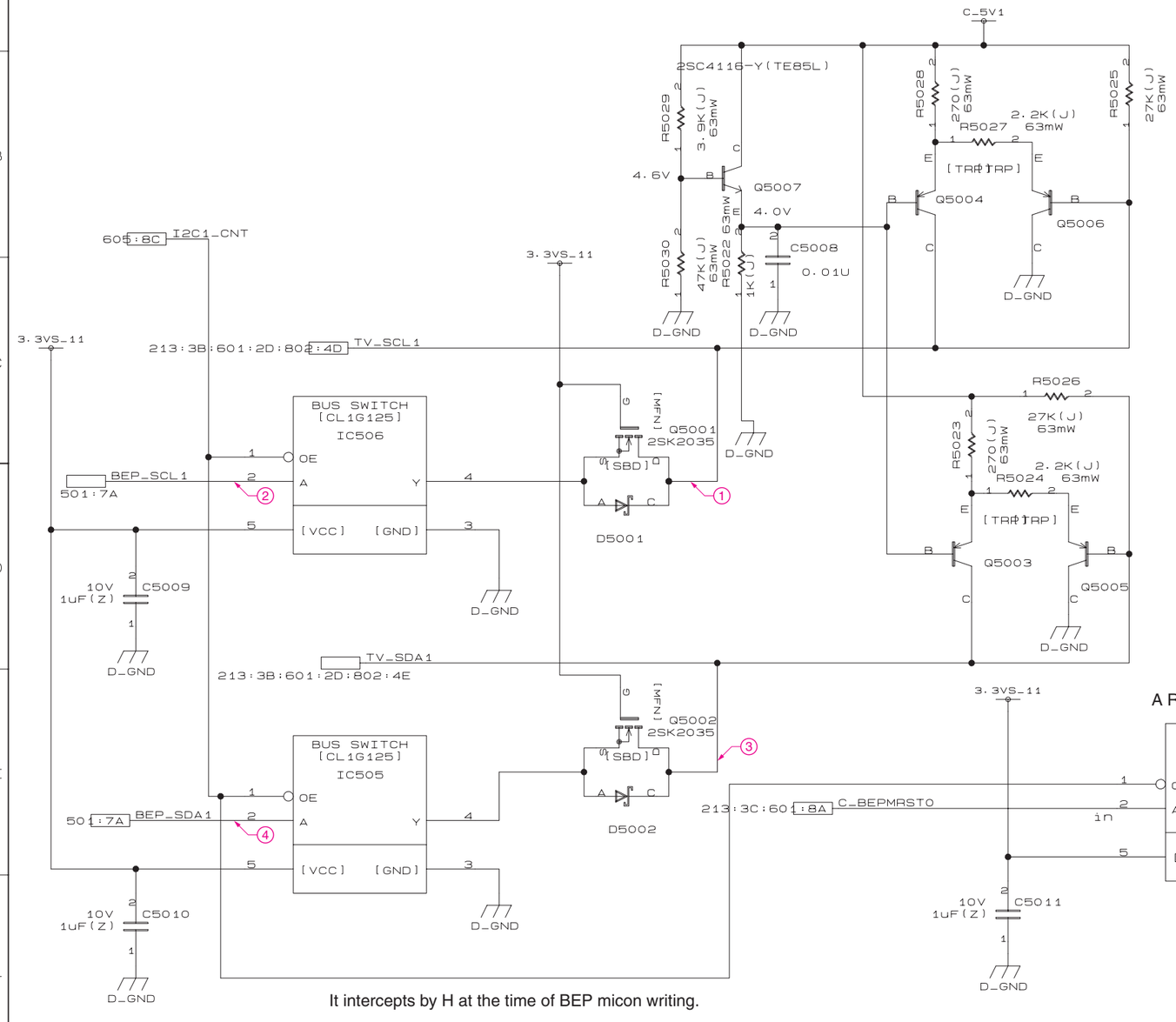
46HM84/52HM84/62HM84
SUB MICON (2/3)
SHEET-2/3

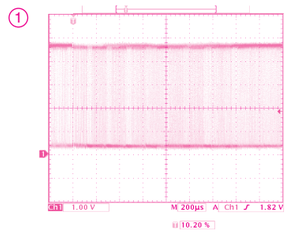
SH. NO.
501

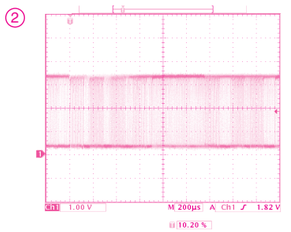


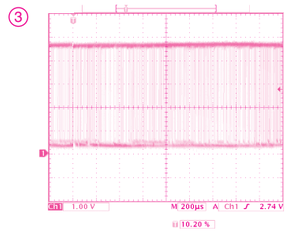
46HM84/52HM84/62HM84
SUB MICON (3/3)
SHEET-3/3

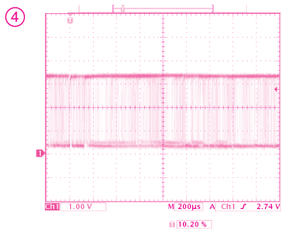
SH. NO.
502

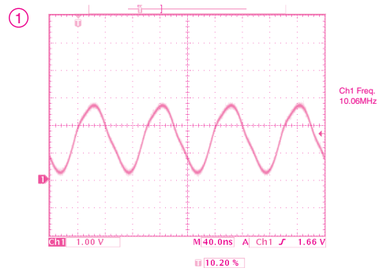

C_5V1
2SC4116-Y(TE85L)
R5029 3.9K(J) 63mW
R5028 270(J) 63mW
R5027 2.2K(J) 63mW
R5025 27K(J) 63mW
[TRAP]
4.6V
Q5007
4.0V
Q5004
Q5006
R5030 47K(J) 63mW
R5022 1K(J)
C5008 0.01U
D_GND
605:8C I2C1_CNT
3.3VS_11
213:3B:601:2D:802:4D TV_SCL1
BUS SWITCH [CL1G125] IC506
OE
A
Y
[VCC]
[GND]
BEP_SCL1
501:7A
C5009 10V 1uF(Z)
Q5001 2SK2035 [MFN]
[SBD]
D5001
R5026 27K(J) 63mW
R5023 270(J) 63mW
R5024 2.2K(J) 63mW
Q5003
Q5005
TV_SDA1
213:3B:601:2D:802:4E
Q5002 2SK2035 [MFN]
D5002
BUS SWITCH [CL1G125] IC505
BEP_SDA1
C5010 10V 1uF(Z)
A Reset selection circuit is in sheet305.
BUS SWITCH [CL1G125] IC507
213:3C:601:8A C_BEPMRST0
in
out
C_BEPMRST 305 1C
sheet305 VHC14
C5011 10V 1uF(Z)
It intercepts by H at the time of BEP micon writing.
46HM84/52HM84/62HM84
OSD MICON 4/4
SH. NO.
503


1
1.00 V
M 200µs A Ch1 1.82 V
10.20 %


2
1.00 V
M 200µs A Ch1 1.82 V
10.20 %


3
1.00 V
M 200µs A Ch1 2.74 V
10.20 %


4
1.00 V
M 200µs A Ch1 2.74 V
10.20 %



M306V7MG-082FP U0
[U306V7FG]
1/3
IC601

VHOLD1 1 | HLF1 2 | P94/DA1/SCL3/RxD2 3 | P93/DA0/SDA3/TxD2 4 | P92/TB2IN/DIGR0 5 | P91/TB1IN 6 | P90/TB0IN 7 | BYTE 8 | CNVSS 9 | P87/XCIN/DIGG0 10 | P86/XCOUT/DIGB0 11 | RESET 12 | XOUT 13 | VSS 14 | XIN 15 | VCCI 16

CVIN1 100 | VCCE 99 | TVSETB 98 | CVIN2 97 | HLF2 96 | VHOLD2 95 | P102/AN0 94 | P103/AN1 93 | P104/AN2 92 | P105/AN3/DIGB2 91 | P106/AN4/DIGG2 90 | P107/AN5/DIGR2 89 | P00/D0 88 | P01/D1 87 | P02/D2 86 | P03/D3 85

604:3C C_CVIN1
604:3E C_CVIN2

C_3.3V
C_5V1

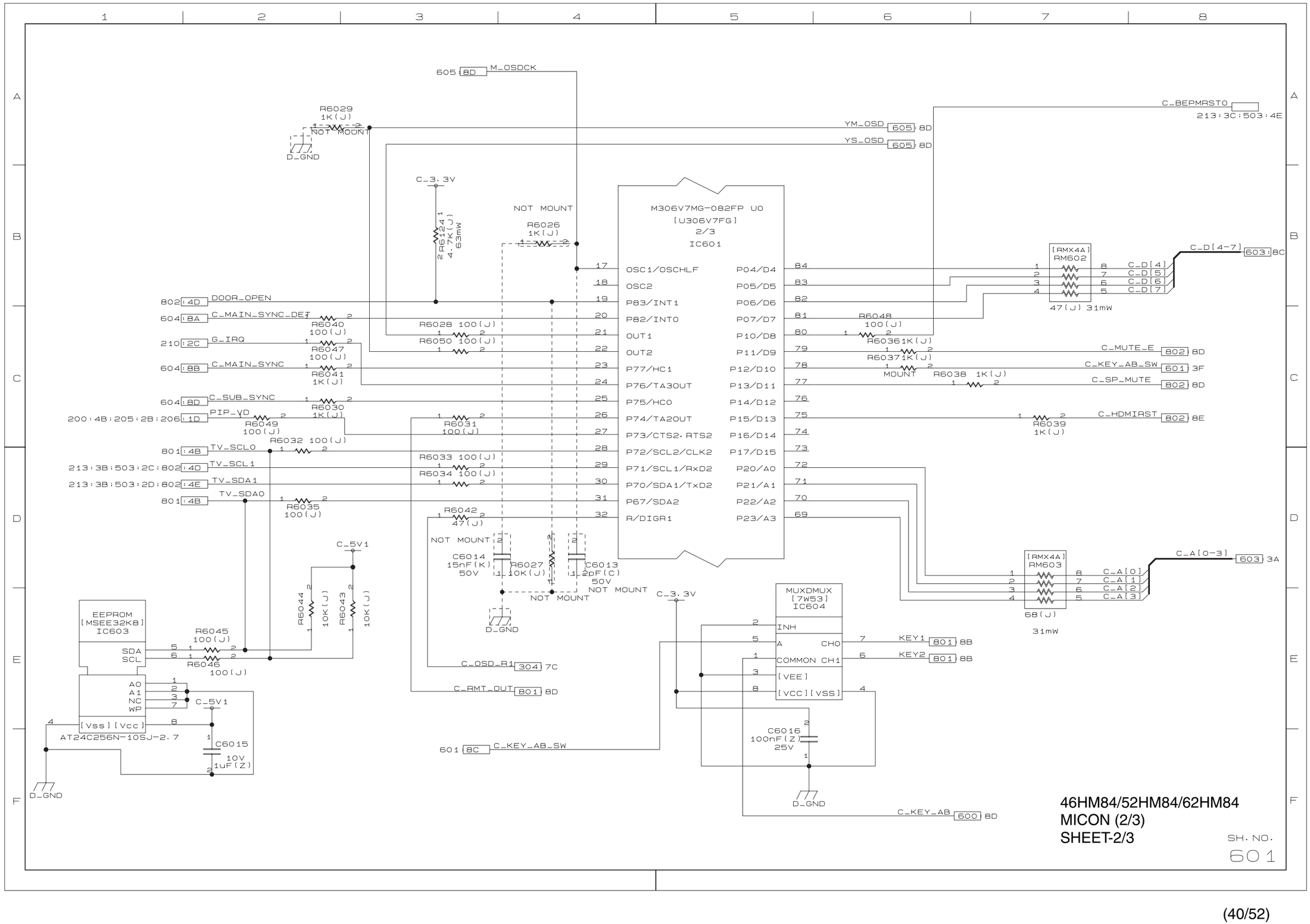
[DMF] D6001 (A, C, NC)
[TP] DP602
[TP] DP601
W6001 NOT MOUNT
W6002 NOT MOUNT
W6003 NOT MOUNT
C6001 100nF(Z) 25V
R6013 10K(J)
R6005 1K(J)
R6016 1K(J)
R6001 1K(J)
R6002 1K(J)
C6005 2.2uF(K)
304:7C C_OSD_R0
R6018 47(J)
802:4C C_ACP
R6015 33K(J)
801:8D C_RMT_IN
R6003 2.2K(J)
R6004 47K(J)
602:1F:801:4B C_BOOT
R6014 100(J)
304:7C C_OSD_G0
R6019 47(J)
304:7D C_OSD_B0
R6020 47(J)
C_RST
R60081K(J)
602:1E:603:2D:801:4B
R6119 68K(J)
R6024 47(J) NOT MOUNT
R6025 1M(J)
R6007 10K(J) NOT MOUNT
R6006 1K(J)
C6009 220pF(J)
C6007 1nF(K)
C6003 100nF(Z) 25V
C6002 100nF(Z) 25V
[XCMA] X6001
CSTCE10M0G52-R0
(GND) 2
3.29
3.29

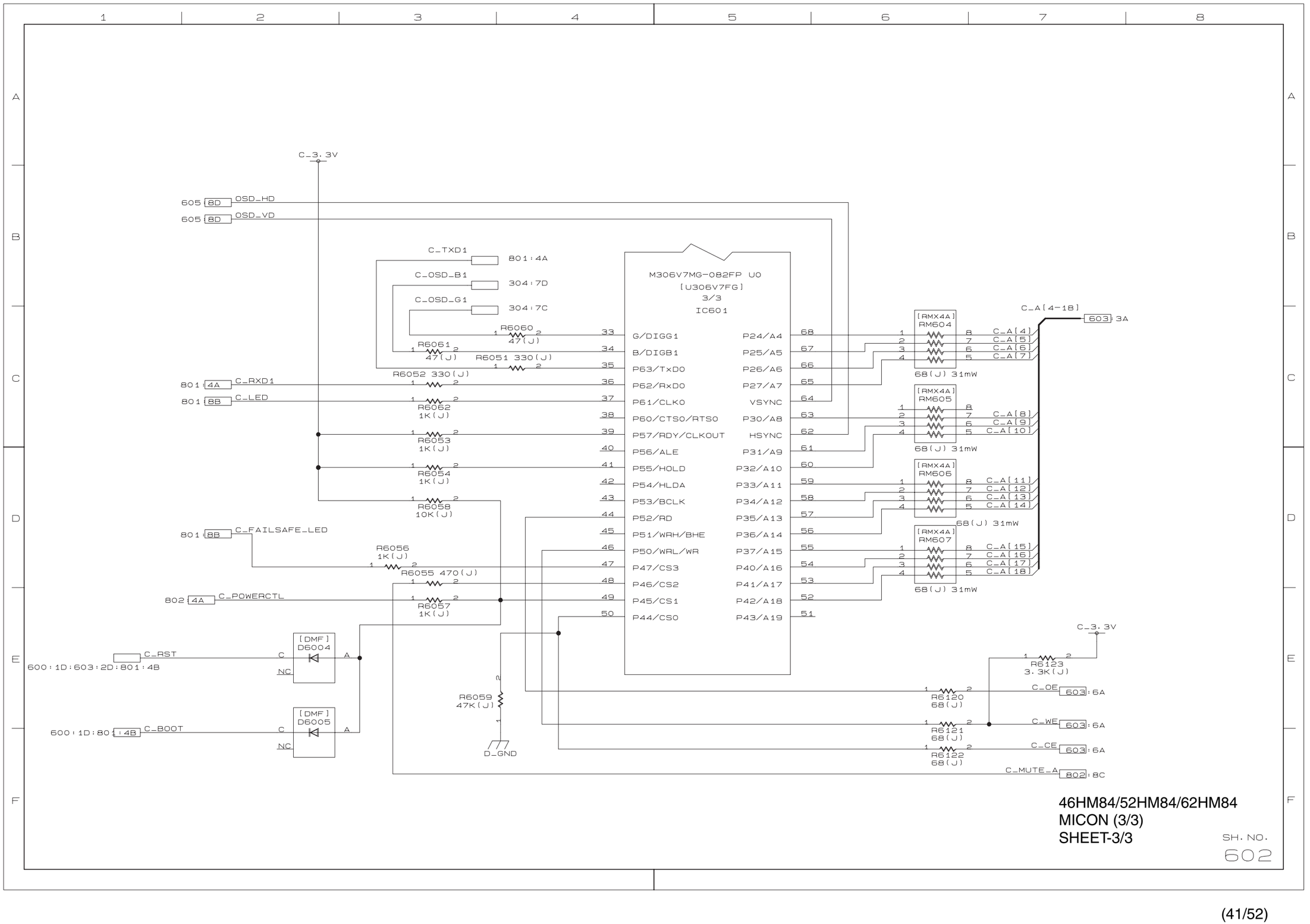
R6009 33K(J)
C6010 330pF(J)
C6011 330pF(J)
R6010 1K(J)
R6011 1K(J)
R6012 1K(J)
R6023 47(J)
R6022 47(J)
R6021 47(J)
C_KEY_AB 601 6F
C_AFT2 802 8B
C_AFT1 802 8A
C_OSD_B2 304 7C
C_OSD_G2 304 7C
C_OSD_R2 304 7C
C_D[0-3] 603 3C
[RMX4A] RM601
8 C_D[0]
7 C_D[1]
6 C_D[2]
5 C_D[3]
47(J) 31mW
R6017 1K(J)
C6004 100nF(Z) 25V
C6008 220pF(J)
C6012 1nF(K)
C6006 2.2uF(K)

D_GND

46HM84/52HM84/62HM84
MICON (1/3)
SHEET-1/3

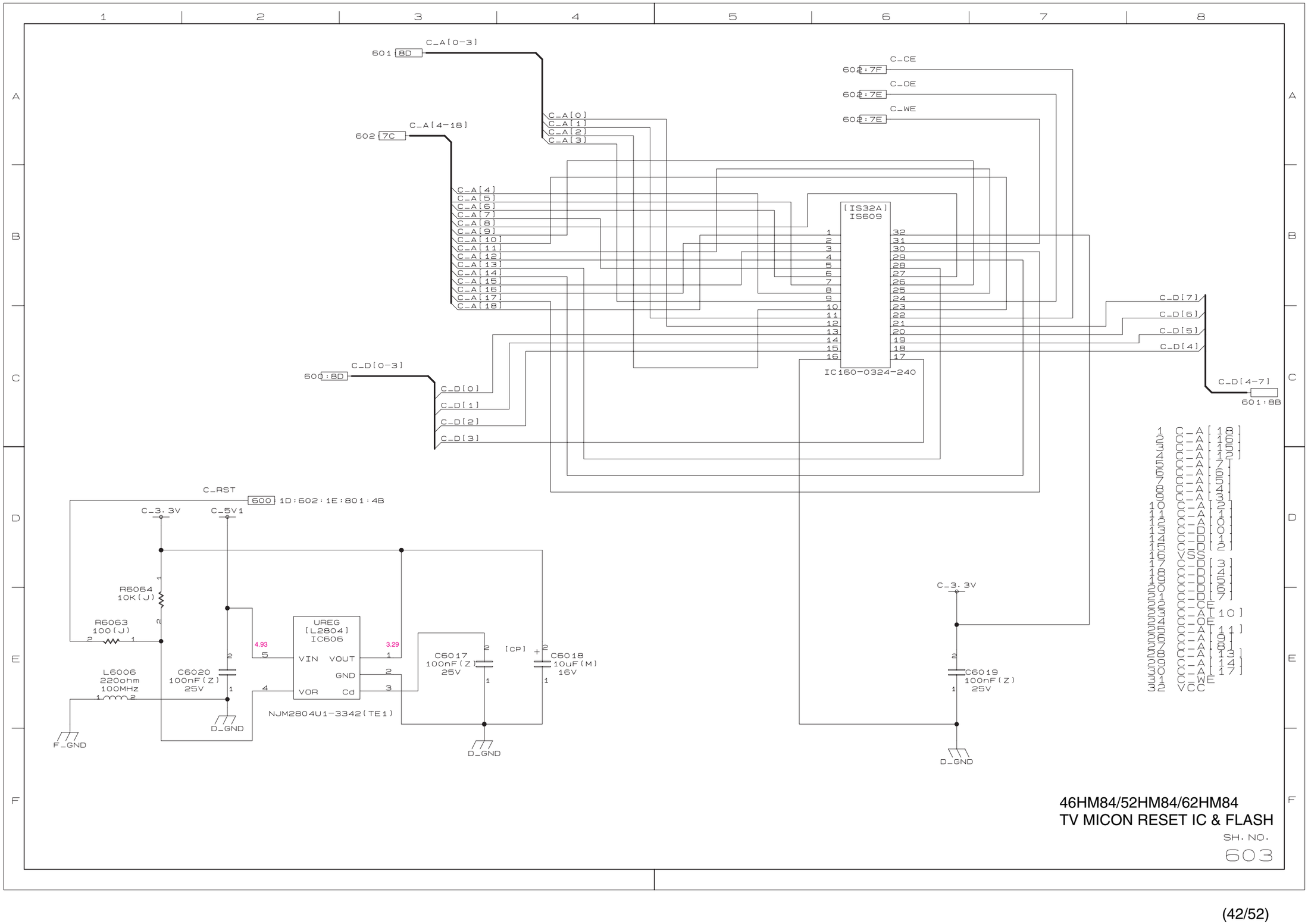
SH. NO.
600


M306V7MG-082FP U0
[U306V7FG]
2/3
IC601
605:8D M_OSDCK
R6029 1K(J) NOT MOUNT
D_GND
C_3.3V
2R6124 4.7K(J) 63mW
NOT MOUNT
R6026 1K(J)
YM_OSD 605:8D
YS_OSD 605:8D
C_BEPMRSTO
213:3C:503:4E
802:4D DOOR_OPEN
604:8A C_MAIN_SYNC_DET
R6040 100(J)
210:2C G_IRQ
R6047 100(J)
604:8B C_MAIN_SYNC
R6041 1K(J)
604:8D C_SUB_SYNC
R6030 1K(J)
200:4B:205:2B:206:1D PIP_YD
R6049 100(J)
801:4B TV_SCL0
R6032 100(J)
213:3B:503:2C:802:4D TV_SCL1
213:3B:503:2D:802:4E TV_SDA1
801:4B TV_SDA0
R6035 100(J)
R6028 100(J)
R6050 100(J)
R6031 100(J)
R6033 100(J)
R6034 100(J)
R6042 47(J)
C6014 15nF(K) 50V
R6027 10K(J)
C6013 2pF(C) 50V
NOT MOUNT
NOT MOUNT
D_GND
C_OSD_R1 304 7C
C_RMT_OUT 801 8D
601 8C C_KEY_AB_SW
17 OSC1/OSCHLF
18 OSC2
19 P83/INT1
20 P82/INT0
21 OUT1
22 OUT2
23 P77/HC1
24 P76/TA3OUT
25 P75/HC0
26 P74/TA2OUT
27 P73/CTS2.RTS2
28 P72/SCL2/CLK2
29 P71/SCL1/RxD2
30 P70/SDA1/TxD2
31 P67/SDA2
32 R/DIGR1
84 P04/D4
83 P05/D5
82 P06/D6
81 P07/D7
80 P10/D8
79 P11/D9
78 P12/D10
77 P13/D11
76 P14/D12
75 P15/D13
74 P16/D14
73 P17/D15
72 P20/A0
71 P21/A1
70 P22/A2
69 P23/A3
[RMX4A] RM602
47(J) 31mW
C_D[4-7] 603:8C
C_D[4]
C_D[5]
C_D[6]
C_D[7]
R6048 100(J)
R60361K(J)
R60371K(J)
MOUNT
R6038 1K(J)
C_MUTE_E 802 8D
C_KEY_AB_SW 601 3F
C_SP_MUTE 802 8D
R6039 1K(J)
C_HDMIRST 802 8E
[RMX4A] RM603
68(J) 31mW
C_A[0-3] 603 3A
C_A[0]
C_A[1]
C_A[2]
C_A[3]
C_5V1
R6044 10K(J)
R6043 10K(J)
EEPROM
[MSEE32K8]
IC603
R6045 100(J)
SDA
SCL
A0
A1
NC
WP
[Vss] [Vcc]
AT24C256N-10SJ-2.7
C6015 10V 1uF(Z)
D_GND
C_3.3V
MUXDMUX
[7W53]
IC604
INH
A
CHO
COMMON CH1
[VEE]
[VCC] [VSS]
KEY1 801 8B
KEY2 801 8B
C6016 100nF(Z) 25V
D_GND
C_KEY_AB 600 8D
46HM84/52HM84/62HM84
MICON (2/3)
SHEET-2/3
SH. NO.
601



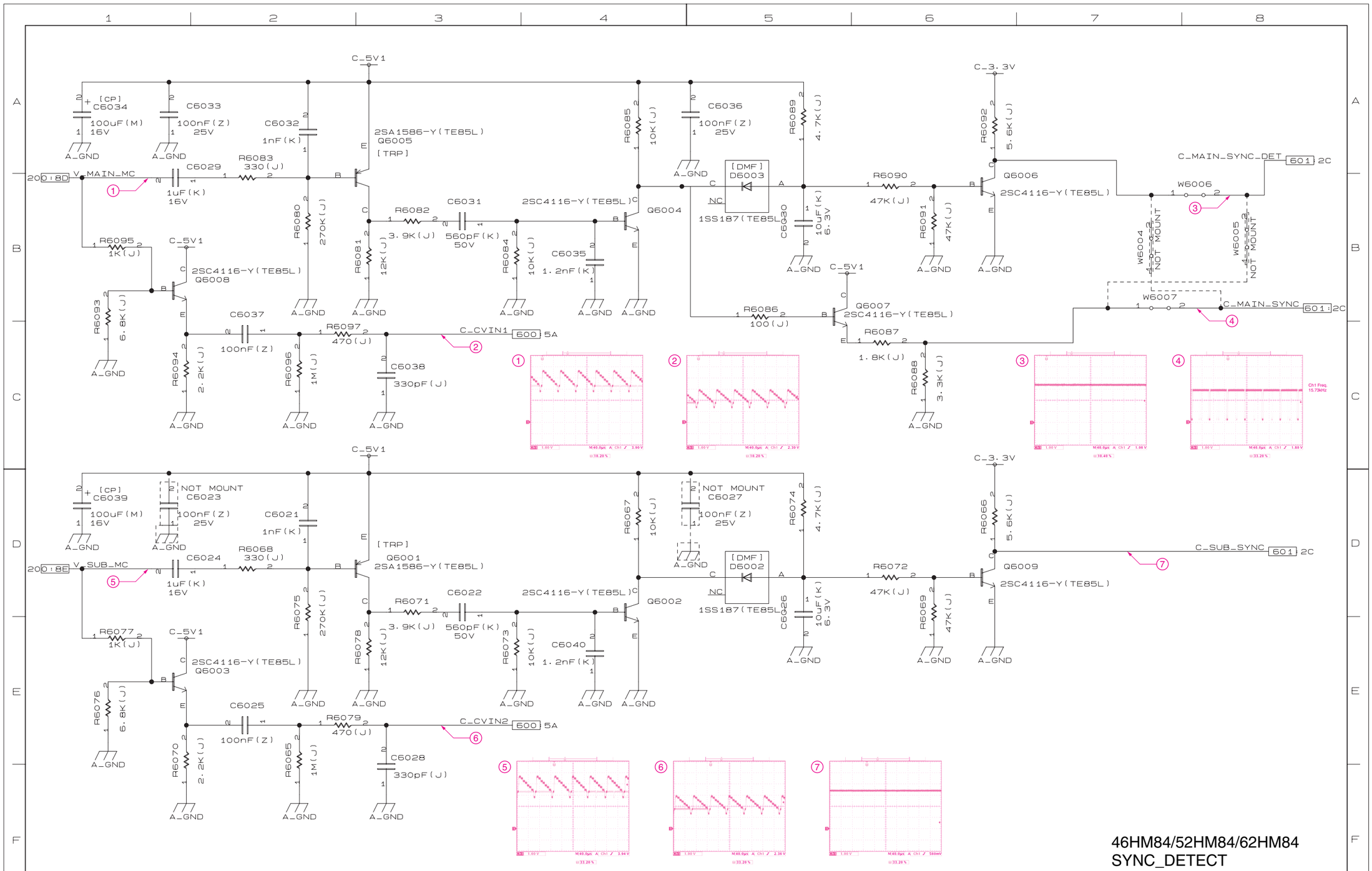
46HM84/52HM84/62HM84
MICON (3/3)
SHEET-3/3

SH. NO.
602



46HM84/52HM84/62HM84
TV MICON RESET IC & FLASH

SH. NO.
603



46HM84/52HM84/62HM84
SYNC_DETECT

SH. NO.
604

210:6B:30 0:1E LVD_HS

210:6B:30 0:1E LVD_VS

50 0:7B HIRA_HYPER

3.3VS_11

[CN6]
PJ104
TCK 1
TDO 2
3.3V 3
TMS 4
TDI 5
GND 6

L6005 L6001 L6002 L6003 L6004

G36220127098

W6008

L6008 22ohm 100MHz NOT MOUNT

F_GND

R6106 33 R6107 33 R6104 33 R6105 33

R6128 4.7K(J) NOT MOUNT
R6126 4.7K(J) NOT MOUNT
R6102 4.7K(J) NOT MOUNT
R6100 4.7K(J) NOT MOUNT
R6101 4.7K(J) NOT MOUNT
R6103 4.7K(J)

R6130 4.7K(J) NOT MOUNT
R6098 4.7K(J) NOT MOUNT
R6099 4.7K(J)
R6118 4.7K(J) NOT MOUNT

I2C1_CNT 503:1B

to MAIN uCOM

PLD
[G3064]
IC607

		GCLK1	37
		OE1	38
		GCLRn	39
		GCLK2	40
		I/O/TDI	1
		I/O	2
		I/O	3
		I/O	5
		I/O	6
		I/O	7
		I/O/TMS	8
		I/O	10
		I/O	12
		I/O	13
		I/O	14
N.C.		I/O	15
N.C.		I/O	18
[VCC]	[GND]		9
[VCC]	[GND]		17
[VCC]	[GND]		29
[VCC]	[GND]		41
[GND]			4
[GND]			11
[GND]			16
[GND]			24
[GND]			30
[GND]			36
I/O			44
I/O			43
I/O			42
I/O			35
I/O			34
I/O			33
I/O	TDO/I/O		32
I/O			31
I/O			28
I/O			27
I/O			26
I/O	TCK/I/O		25
I/O			23
I/O			22
I/O			21
I/O			20
I/O			19

N.C.

D_GND

304 7D OSD_CLK

to BEP uCOM

304 7D HIRA_HD

304 7D HIRA_VD

304 7D YM_BEP_IN

304 1D YS_BEP_IN

804 8D CNFLG

R6110 10K(J)

R6127 4.7K(J)
R6125 4.7K(J)
R6113 4.7K(J)
R6111 4.7K(J)
R6114 4.7K(J)
R6107 4.7K(J)

C6042 100nF(Z)
C6041 100nF(Z)
C6044 100nF(Z)
C6043 100nF(Z)

HD:3us PDP/70MHz -> 70h
LCD/65MHz -> 70h

R6129 4.7K(J)
R6117 4.7K(J)
R6116 4.7K(J) NOT MOUNT
R6115 4.7K(J)

6 OSD_VD 602:2B

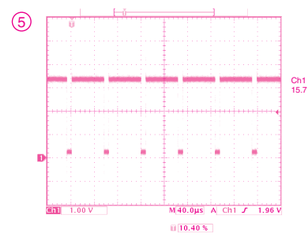
5 OSD_HD 602:2B

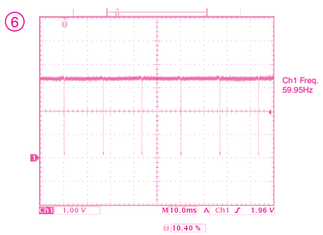
100 R6108 YM_OSD 601:6A

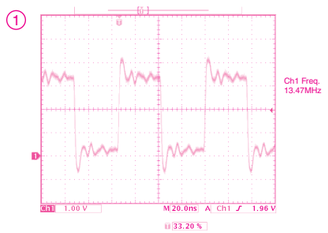
100 R6109 YS_OSD 601:6A

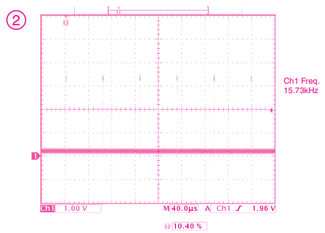
100 R6112 M_OSDCK 601:3A

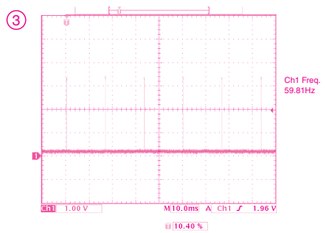
4

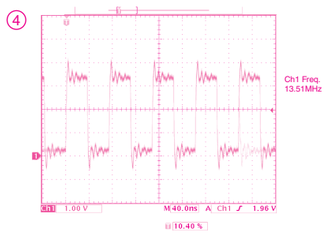






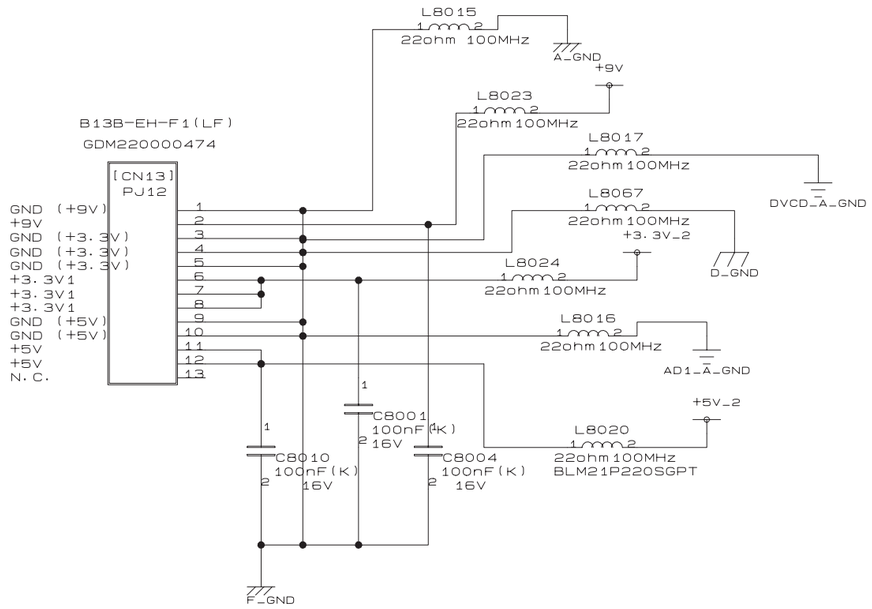






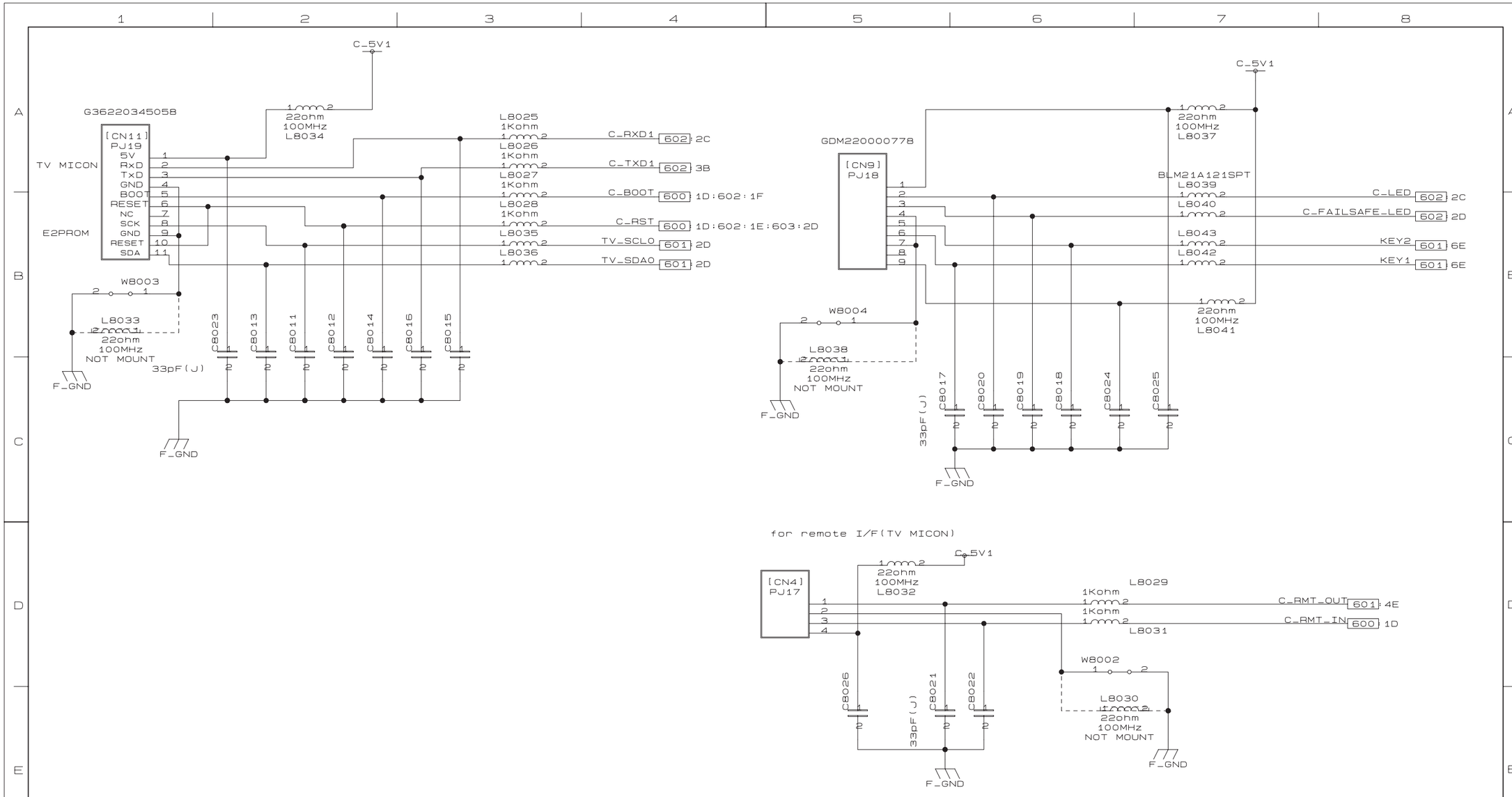
46HM84/52HM84/62HM84
PLD (US OSD SYNC Generator)

SH. NO.
605



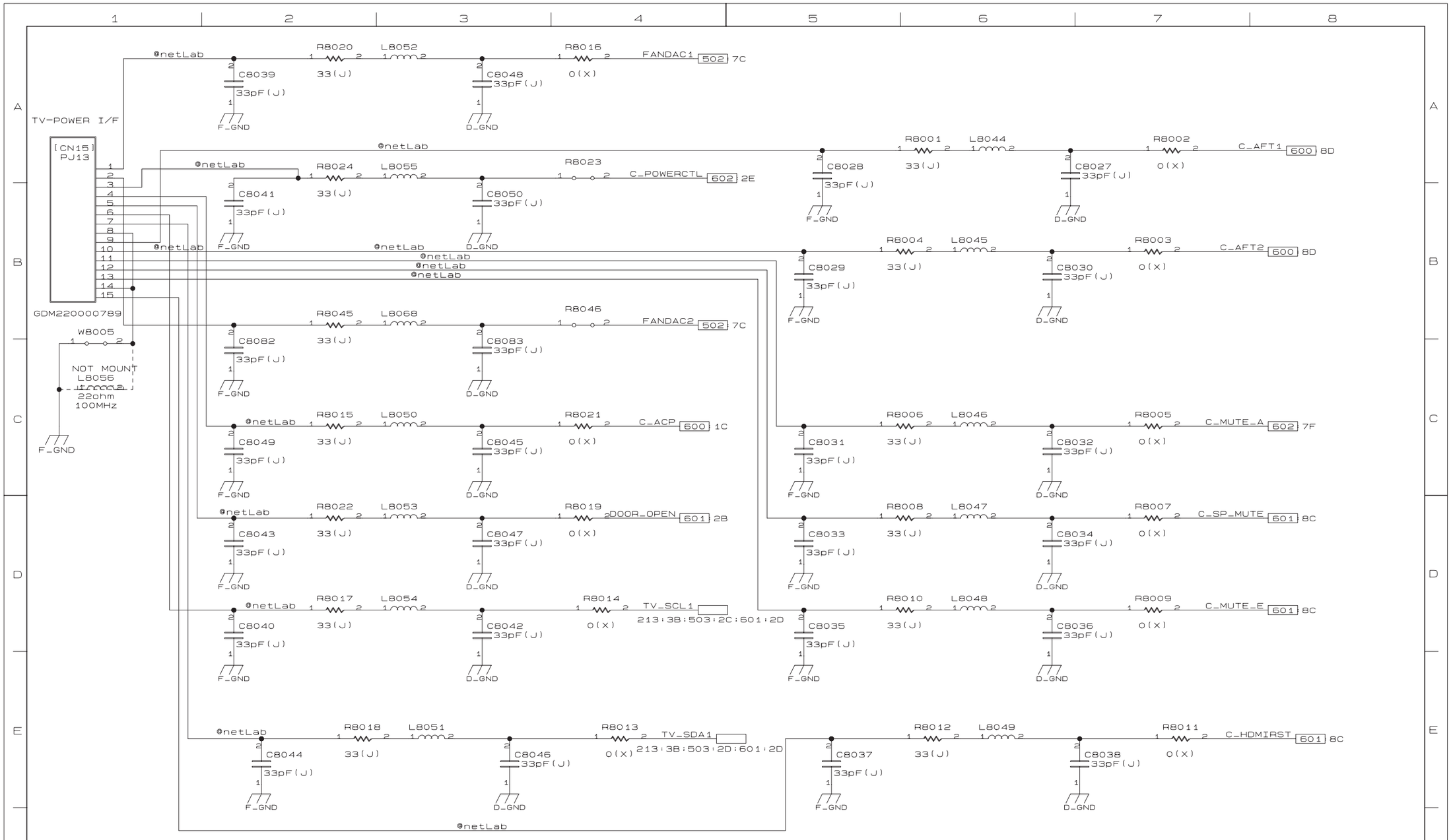
46HM84/52HM84/62HM84
POWER_CONNECTOR

SH. NO.
800



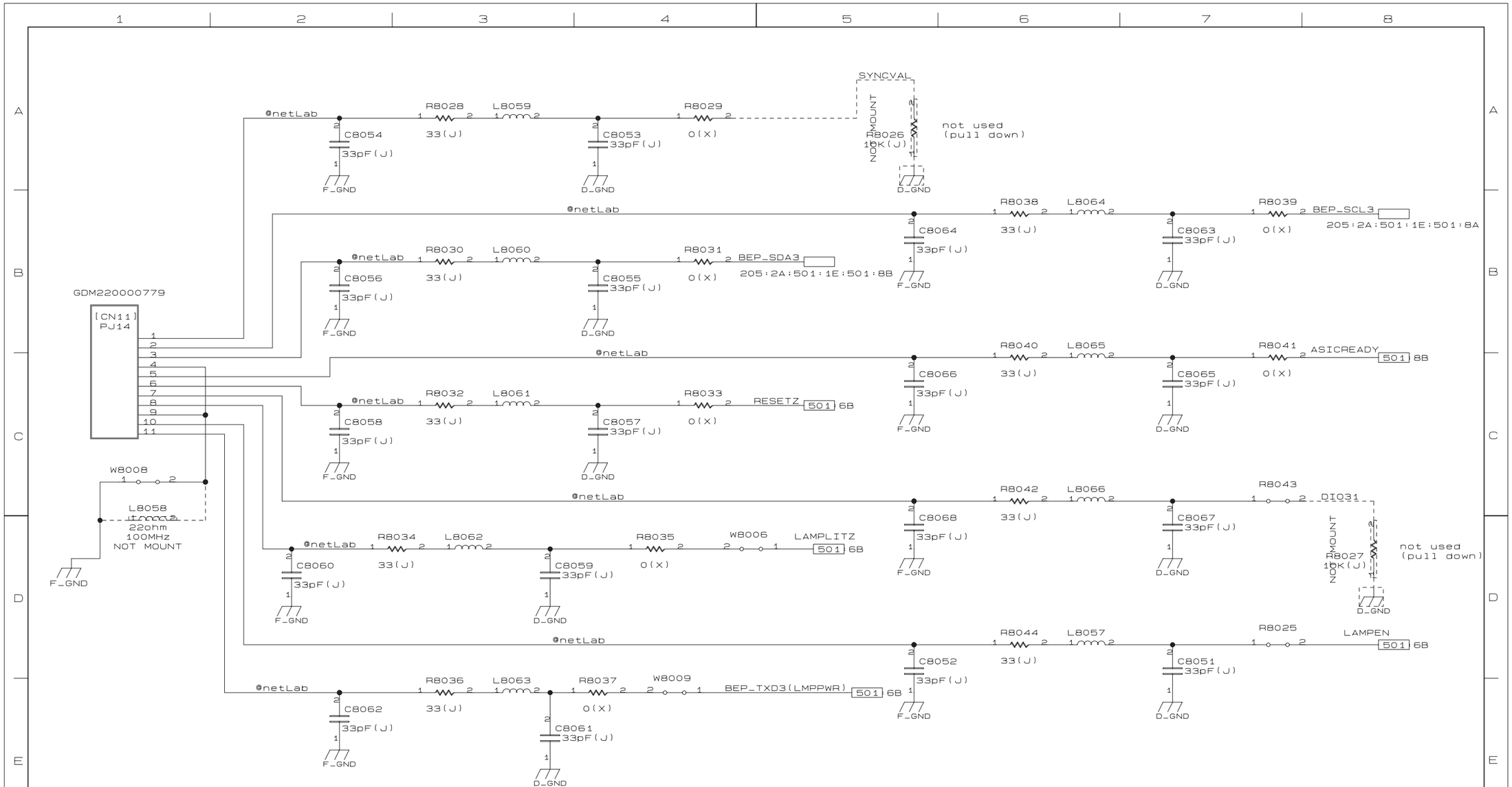
46HM84/52HM84/62HM84
TV MICON CONNECTOR (1)

SH. NO.
801



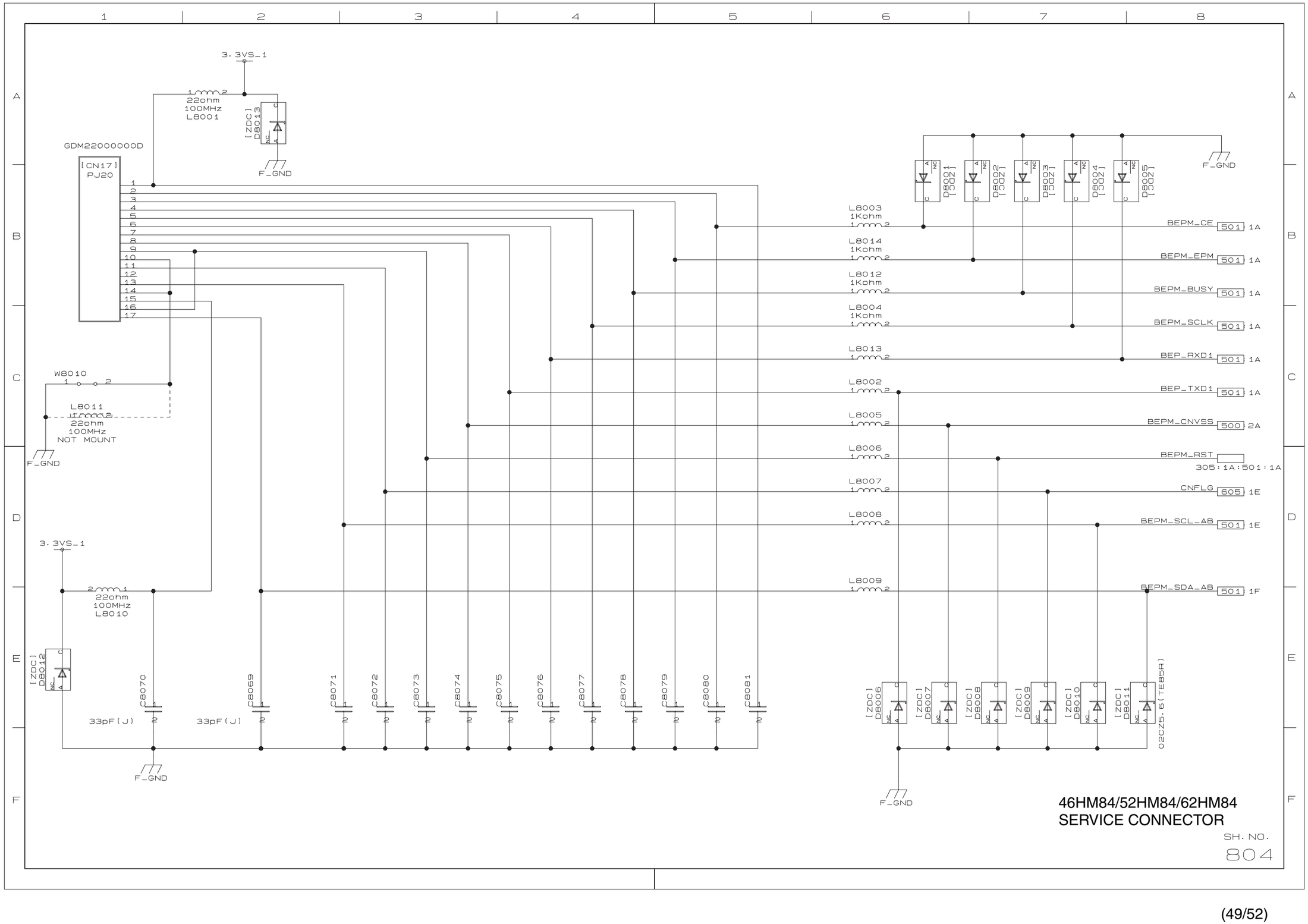
46HM84/52HM84/62HM84
CONNECTOR (TV MICON-POWER BOARD)

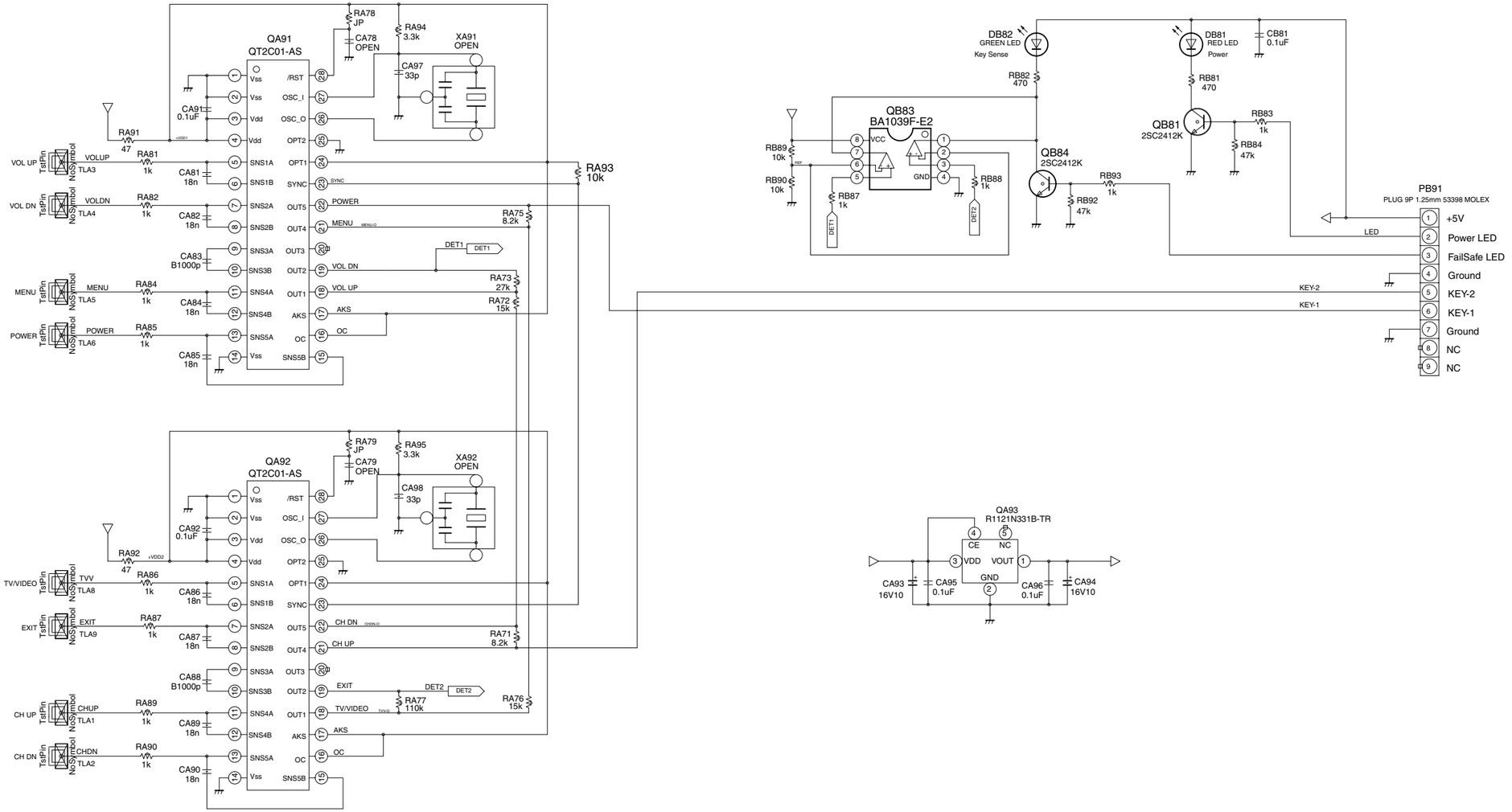
SH. NO.
802



46HM84/52HM84/62HM84
CONNECTOR (DLF I/F)

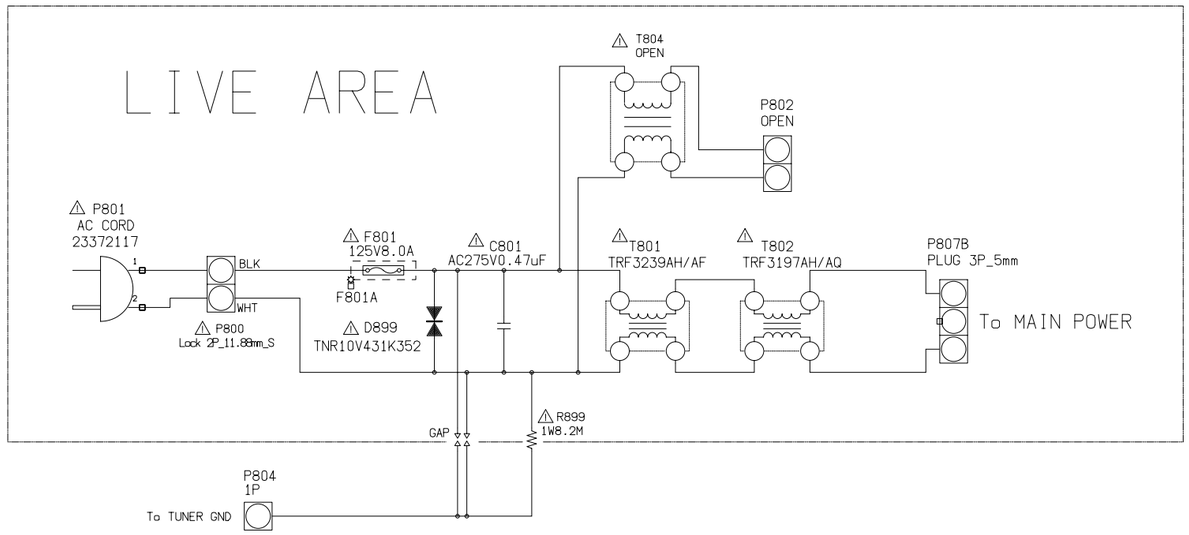
SH. NO.
803


3.3VS_1
22ohm
100MHz
L8001
[ZDC]
D8013
F_GND
GDM220000000D
[CN17]
PJ20
W8010
L8011
22ohm
100MHz
NOT MOUNT
3.3VS_1
22ohm
100MHz
L8010
[ZDC]
D8012
C8070
33pF(J)
C8069
33pF(J)
C8071
C8072
C8073
C8074
C8075
C8076
C8077
C8078
C8079
C8080
C8081
F_GND
L8003
1Kohm
L8014
1Kohm
L8012
1Kohm
L8004
1Kohm
L8013
L8002
L8005
L8006
L8007
L8008
L8009
[ZDC]
D8001
[ZDC]
D8002
[ZDC]
D8003
[ZDC]
D8004
[ZDC]
D8005
F_GND
BEPM_CE 501 1A
BEPM_EPM 501 1A
BEPM_BUSY 501 1A
BEPM_SCLK 501 1A
BEP_RXD1 501 1A
BEP_TXD1 501 1A
BEPM_CNVSS 500 2A
BEPM_RST
305:1A:501:1A
CNFLG 605 1E
BEPM_SCL_AB 501 1E
BEPM_SDA_AB 501 1F
[ZDC]
D8006
[ZDC]
D8007
[ZDC]
D8008
[ZDC]
D8009
[ZDC]
D8010
[ZDC]
D8011
02CZ5.6(TE85R)
F_GND
46HM84/52HM84/62HM84
SERVICE CONNECTOR
SH. NO.
804



46HM84/52HM84/62HM84
Front Key

46HM84/52HM84/62HM84
MAIN POWER



46HM84/52HM84/62HM84
AC IN

SCHEMATIC DIAGRAM

MODEL : 46HM84/52HM84/62HM84

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

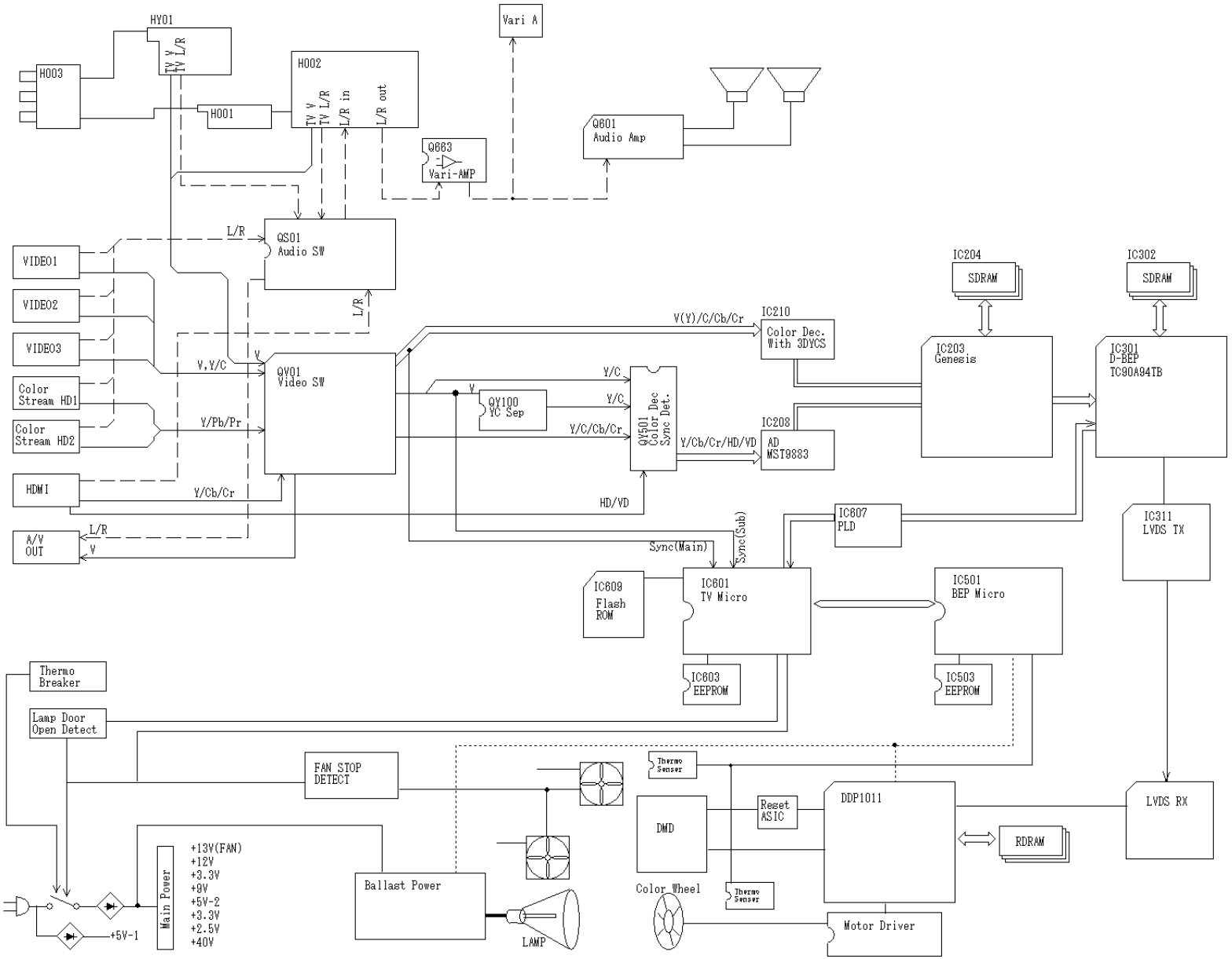
NOTE:

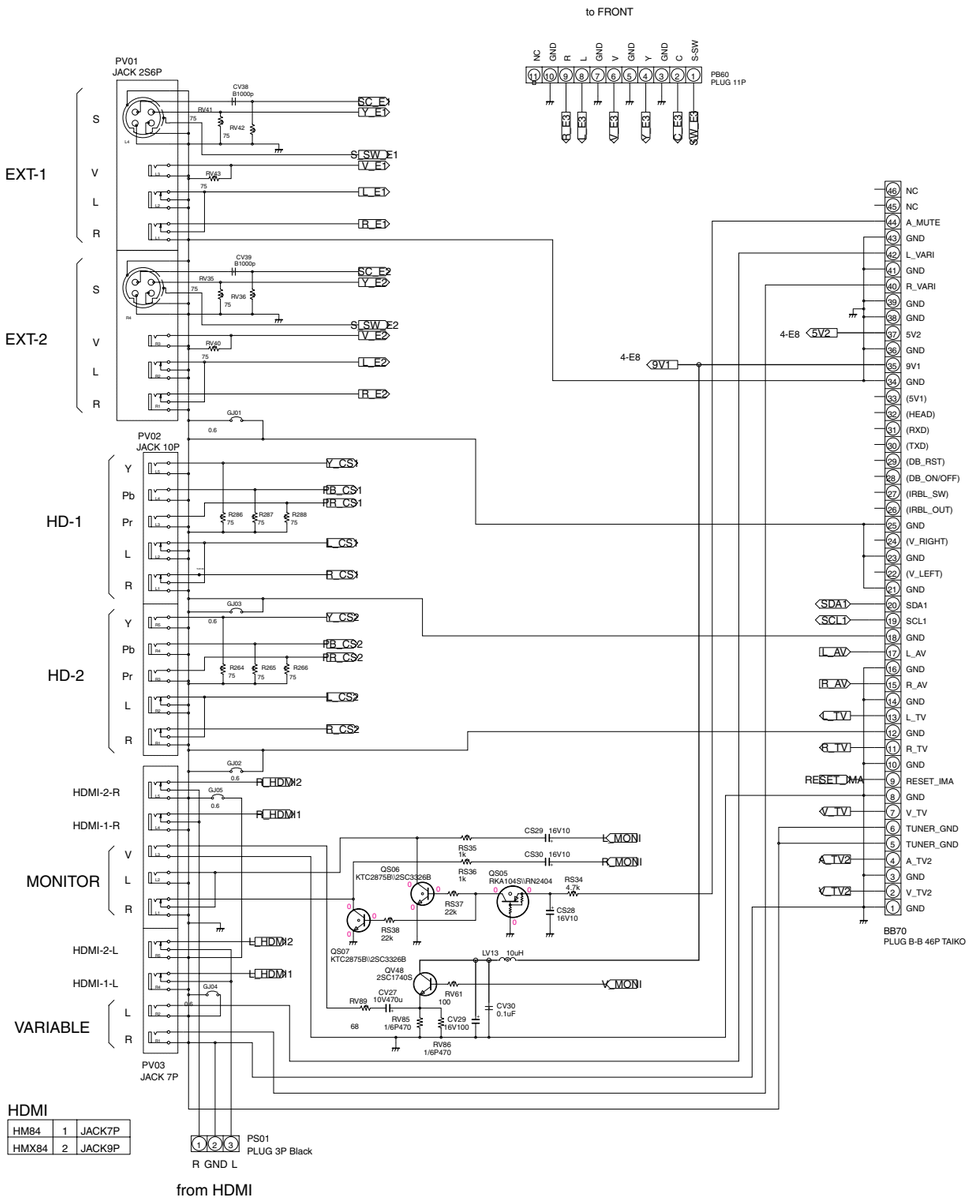
1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt
   1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt
   10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   Electolytic capacitor
   Mylar capacitor
3. The parts indicated with "⚠" have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage at 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ SCHEMA TIC DIAGRAM STRUCTURE:

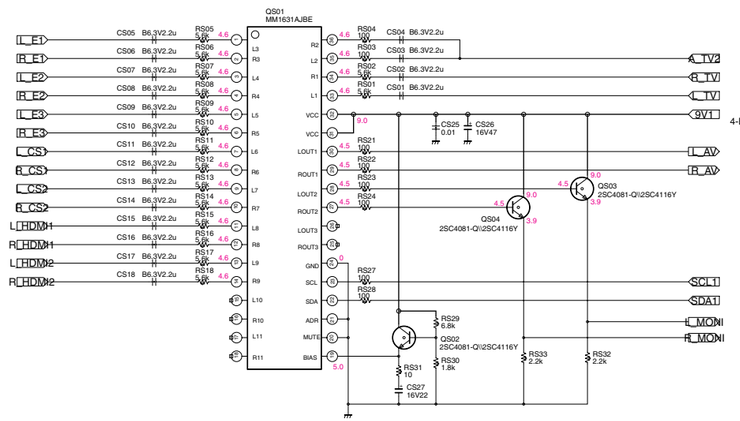
- BACK AV Circuit
  - (1/5) [SHEET - 1/5] 1/52
  - (2/5) [SHEET - 2/5] 2/52
  - (3/5) [SHEET - 3/5] 3/52
  - (4/5) [SHEET - 4/5] 4/52
  - (5/5) [SHEET - 5/5] 5/52
- IF AUDIO Circuit
  - (1/3) [SHEET - 1/3] 6/12
  - (2/3) [SHEET - 2/3] 7/52
  - (3/3) [SHEET - 3/3] 8/52
- F-AV Circuit 9/52
- AV_CONNECTOR Circuit 10/52
- AD_LPF Circuit 11/52
- DVCD2_LPF Circuit 12/52
- DVCD1_LPF Circuit 13/52
- 3chADC HD Circuit 14/52
- 3chADC MST9883 Circuit 15/52
- DVCD CSYNCIN Circuit 16/52
- DVCD TC90A92AFG Circuit 17/52
- DVCD POWER Circuit 18/52
- GENESIS Circuit
  - (1/2) [SHEET - 1/2] 19/52
  - (2/2) [SHEET - 2/2] 20/52
- SDRAM Circuit 21/52
- GENESIS_POWER Circuit 22/52
- GENESIS_IIC Circuit 23/52
- SCALER DIGITAL INPUT Circuit 24/52
- SCALER CAPTURE INPUT Circuit 25/52
- DDR SDRAM Circuit 26/52
- SCALER PLL Circuit 27/52
- OSD for North America Circuit 28/52
- IIC Circuit 29/52
- 94TB POWER Circuit 30/52
- LVDS OUT Circuit 31/52
- Power (3.3V_2 to 2.5V_DVCC) Circuit 32/52
- LVDS OUT CONNECTOR Circuit 33/52
- DC/DC CONVERTER Circuit 34/52
- SUB MICON Circuit
  - (1/3) [SHEET - 1/3] 35/52
  - (2/3) [SHEET - 2/3] 36/52
  - (3/3) [SHEET - 3/3] 37/52
- OSD MICON 4/4 Circuit 38/52
- MICON Circuit
  - (1/3) [SHEET - 1/3] 39/52
  - (2/3) [SHEET - 2/3] 40/52
  - (2/3) [SHEET - 3/3] 41/52
- TV MICON RESET IC & FLASH Circuit 42/52
- SYNC_DETECT Circuit 43/52
- PLD (US OSD SYNC Generator) Circuit 44/52
- POWER_CONNECTOR Circuit 45/52
- TV MICON CONNECTOR (1) Circuit 46/52
- CONNECTOR (TV MICON-POWER BOARD) Circuit 47/52
- CONNECTOR (DLF I/F) Circuit 48/52
- SERVICE CONNECTOR Circuit 49/52
- Front Key Circuit 50/52
- MAIN POWER Circuit 51/52
- AC IN Circuit 52/52

CIRCUIT BLOCK DIAGRAM

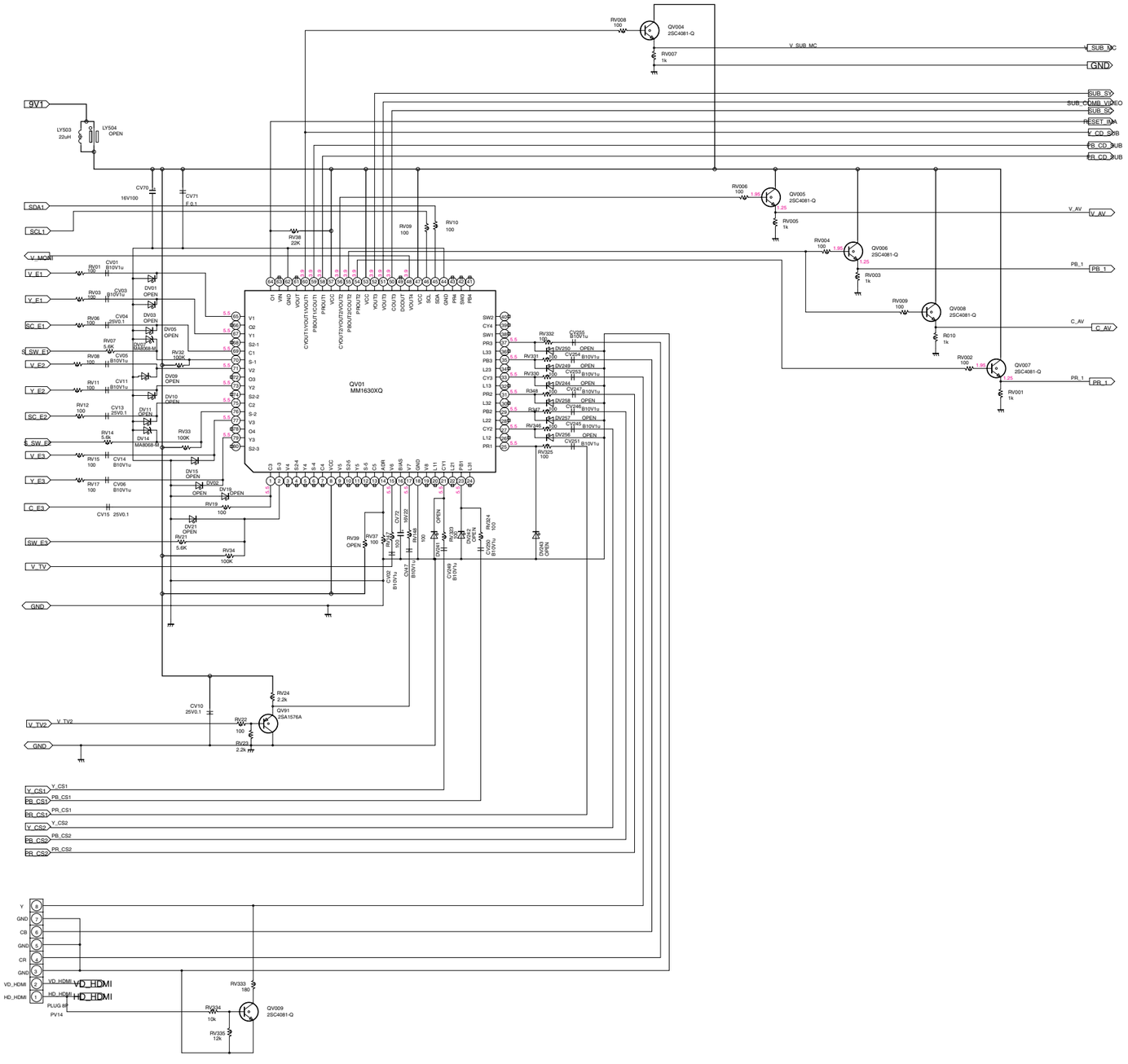




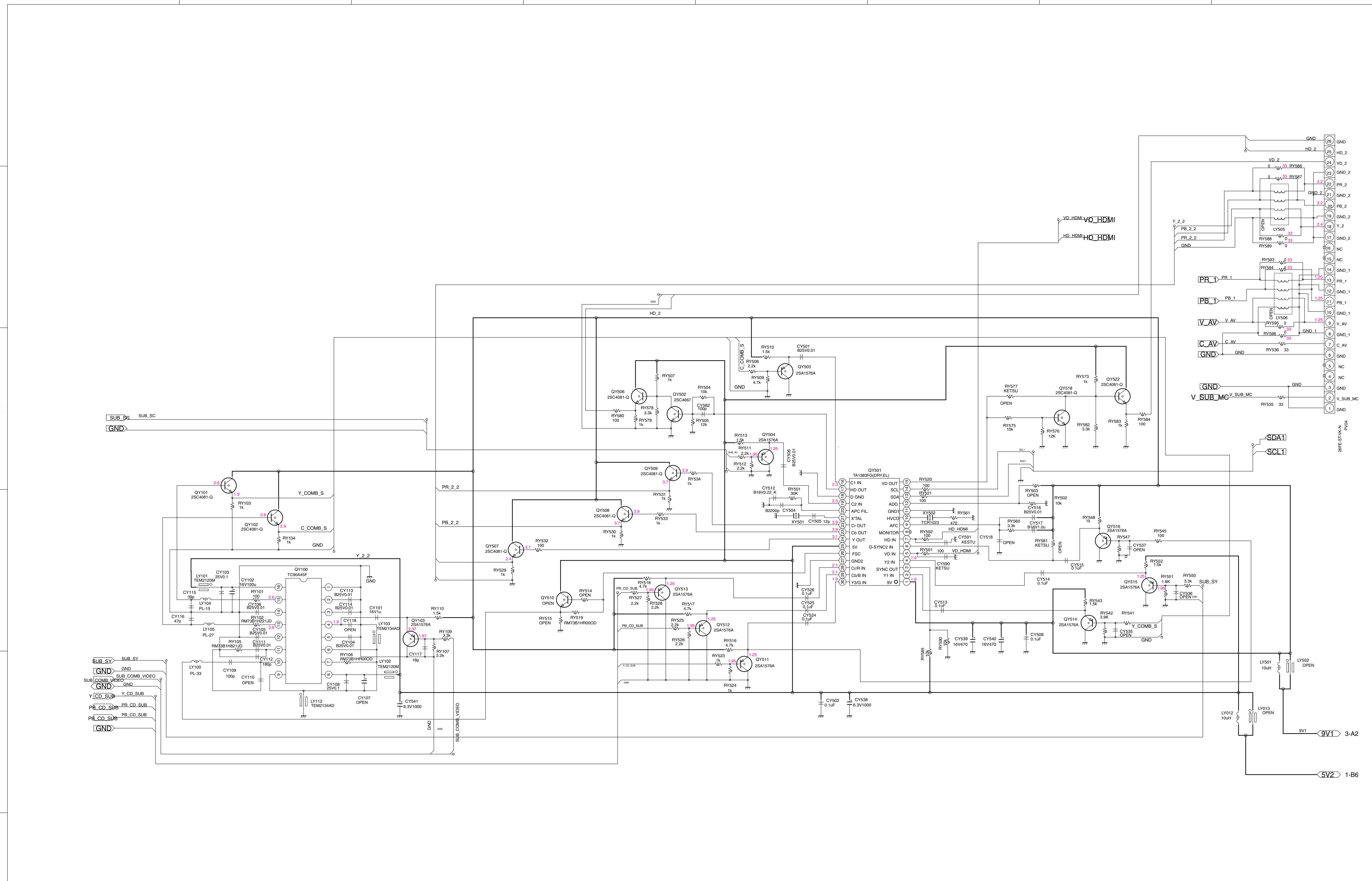
46HM84/52HM84/62HM84
BACK AV (1/5)
SHEET-1/5



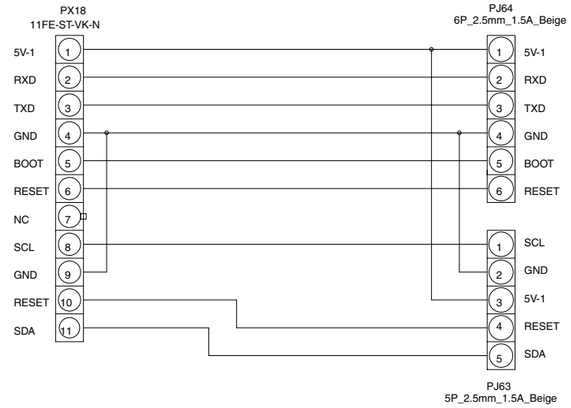
46HM84/52HM84/62HM84
BACK AV (2/5)
SHEET-2/5

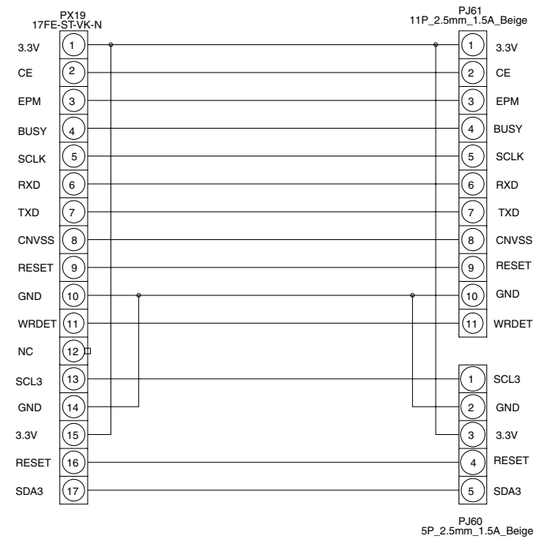


46HM84/52HM84/62HM84
BACK AV (3/5)
SHEET-3/5

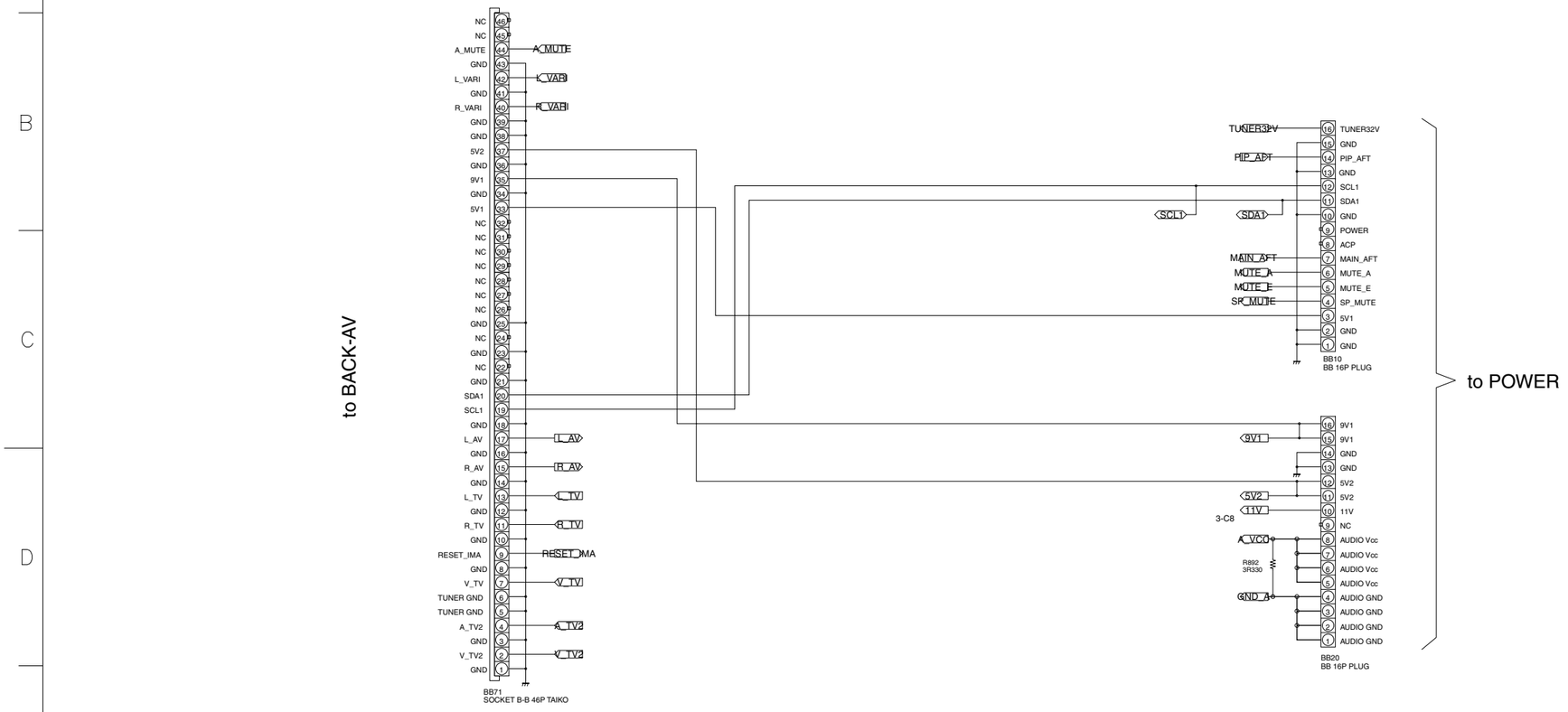


46HM84/52HM84/62HM84
BACK AV (4/5)
SHEET-4/5

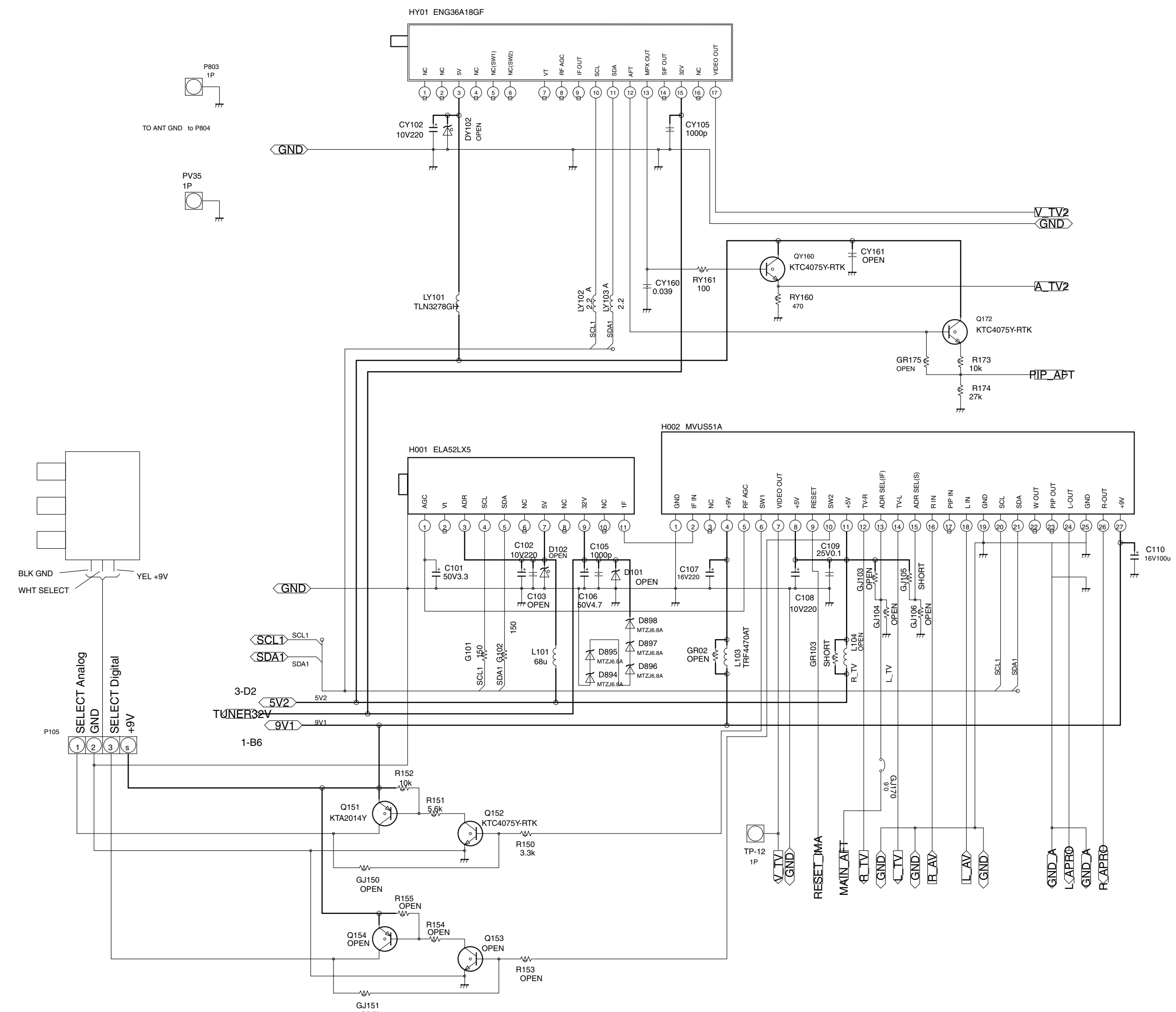




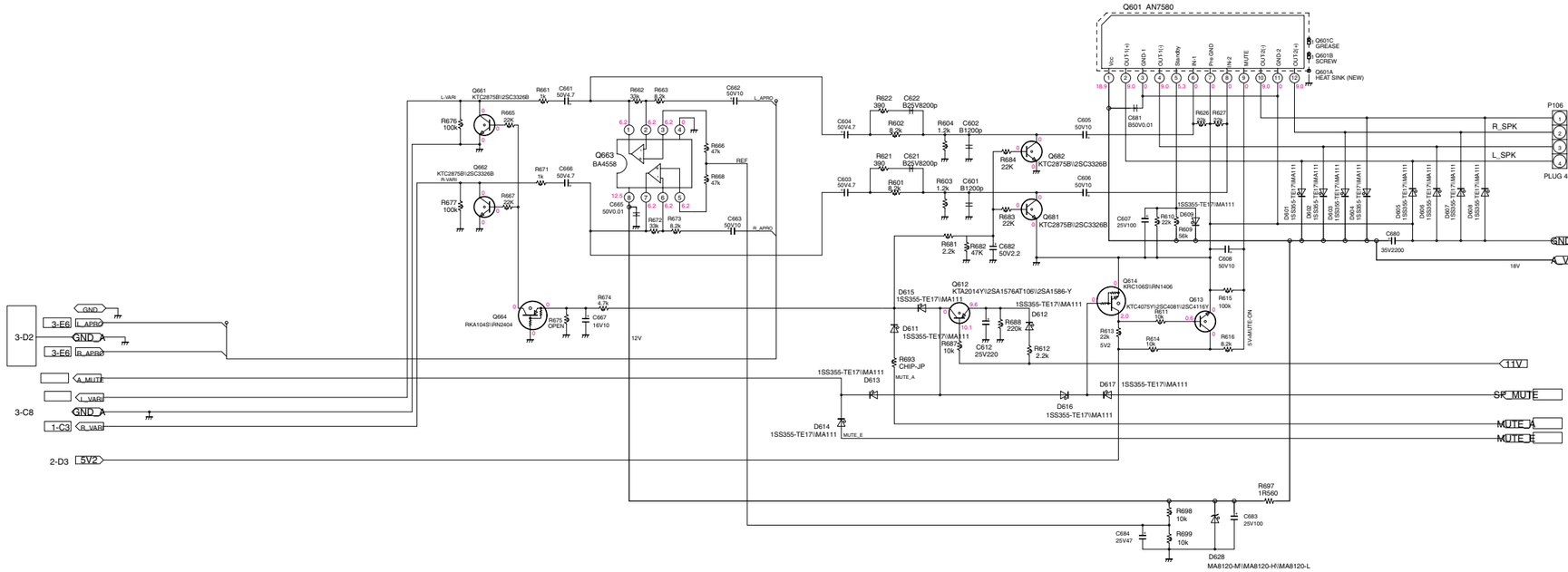
46HM84/52HM84/62HM84
BACK AV (5/5)
SHEET-5/5



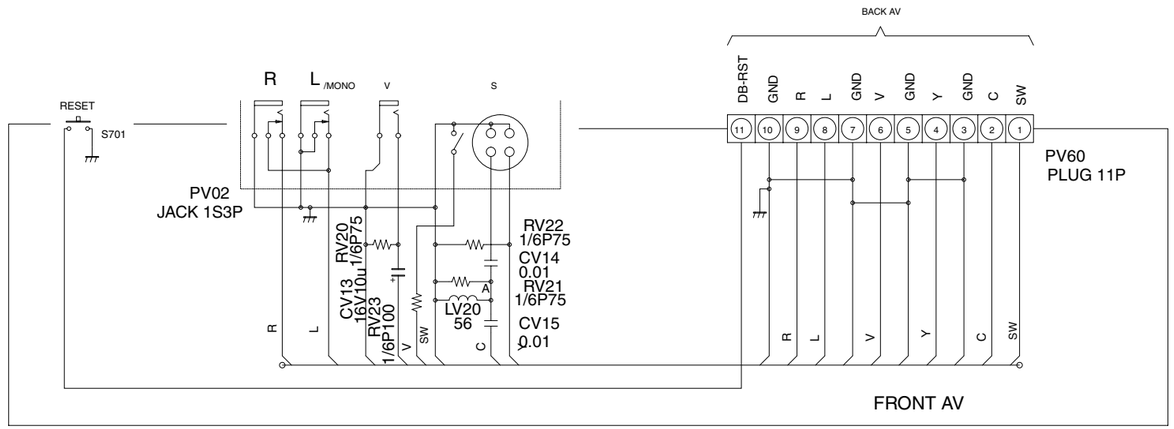
46HM84/52HM84/62HM84
IF AUDIO (1/3)
SHEET-1/3

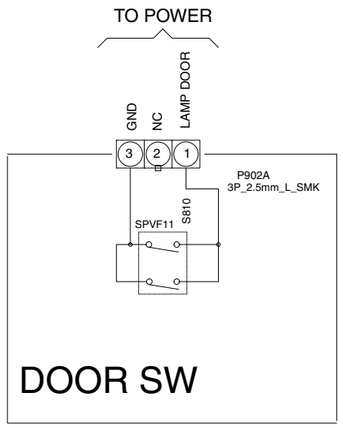

HY01 ENG36A18GF
NC
NC
5V
NC
NC(SW1)
NC(SW2)
VT
RF AGC
IF OUT
SCL
SDA
AFT
MPX OUT
SIF OUT
32V
NC
VIDEO OUT
P803
1P
TO ANT GND to P804
PV35
1P
CY102
10V220
DY102
OPEN
CY105
1000p
GND
V_TV2
GND
QY160
KTC4075Y-RTK
CY161
OPEN
CY160
0.039
RY161
100
RY160
470
A_TV2
LY101
TLN3278GH
LY102
2.2 A
LY103 A
2.2
SCL1
SDA1
Q172
KTC4075Y-RTK
GR175
OPEN
R173
10k
PIP_AFT
R174
27k
H001 ELA52LX5
AGC
Vt
ADR
SCL
SDA
NC
5V
NC
32V
NC
1F
H002 MVUS51A
GND
IF IN
NC
+9V
RF AGC
SW1
VIDEO OUT
+5V
RESET
SW2
+5V
TV-R
ADR SEL(IF)
TV-L
ADR SEL(S)
R IN
PIP IN
L IN
GND
SCL
SDA
W OUT
PIP OUT
L-OUT
GND
R-OUT
+9V
C110
16V100u
BLK GND
WHT SELECT
YEL +9V
C101
50V3.3
C102
10V220
D102
OPEN
C105
1000p
D101
OPEN
C107
16V220
C109
25V0.1
C103
OPEN
C106
50V4.7
C108
10V220
GJ103
OPEN
GJ105
SHORT
GJ104
OPEN
GJ106
OPEN
D898
MTZJ6.8A
D897
MTZJ6.8A
D895
MTZJ6.8A
D896
MTZJ6.8A
D894
MTZJ6.8A
SCL1
SDA1
G101
150
G102
150
L101
68u
GR02
OPEN
L103
TRF4470AT
GR103
SHORT
L104
OPEN
R_TV
L_TV
3-D2
5V2
TUNER32V
9V1
1-B6
P105
SELECT Analog
GND
SELECT Digital
+9V
R152
10k
Q151
KTA2014Y
R151
5.6k
Q152
KTC4075Y-RTK
R150
3.3k
GJ150
OPEN
R155
OPEN
R154
OPEN
Q154
OPEN
Q153
OPEN
R153
OPEN
GJ151
OPEN
GJ170
0.6
TP-12
1P
V_TV
GND
RESET_MA
MAIN_AFT
R_TV
GND
L_TV
GND
R_AV
L_AV
GND
GND_A
L_APRO
GND_A
R_APRO

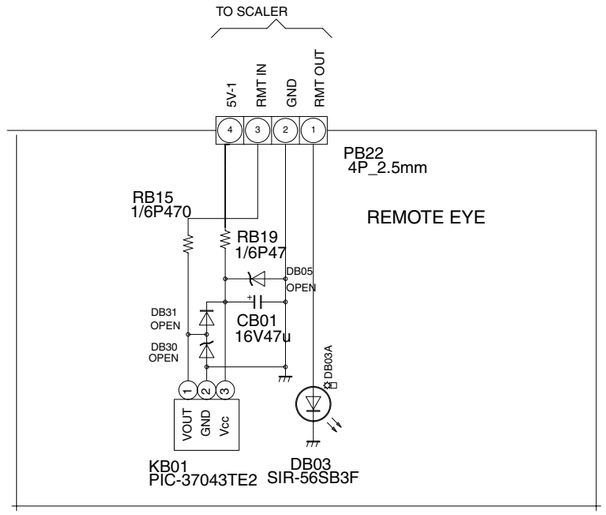
46HM84/52HM84/62HM84
IF AUDIO (2/3)
SHEET-2/3



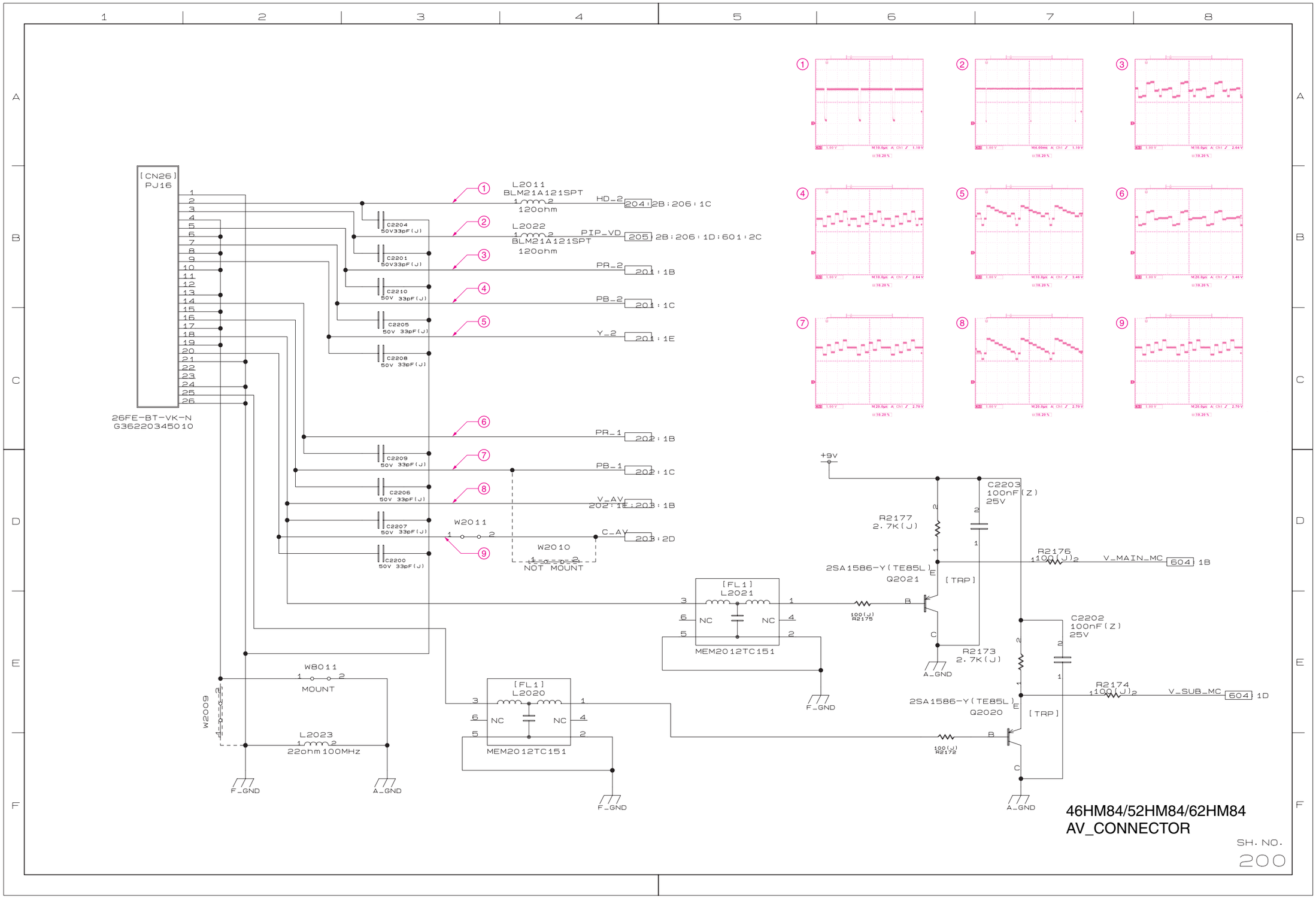
46HM84/52HM84/62HM84
IF AUDIO (3/3)
SHEET-3/3



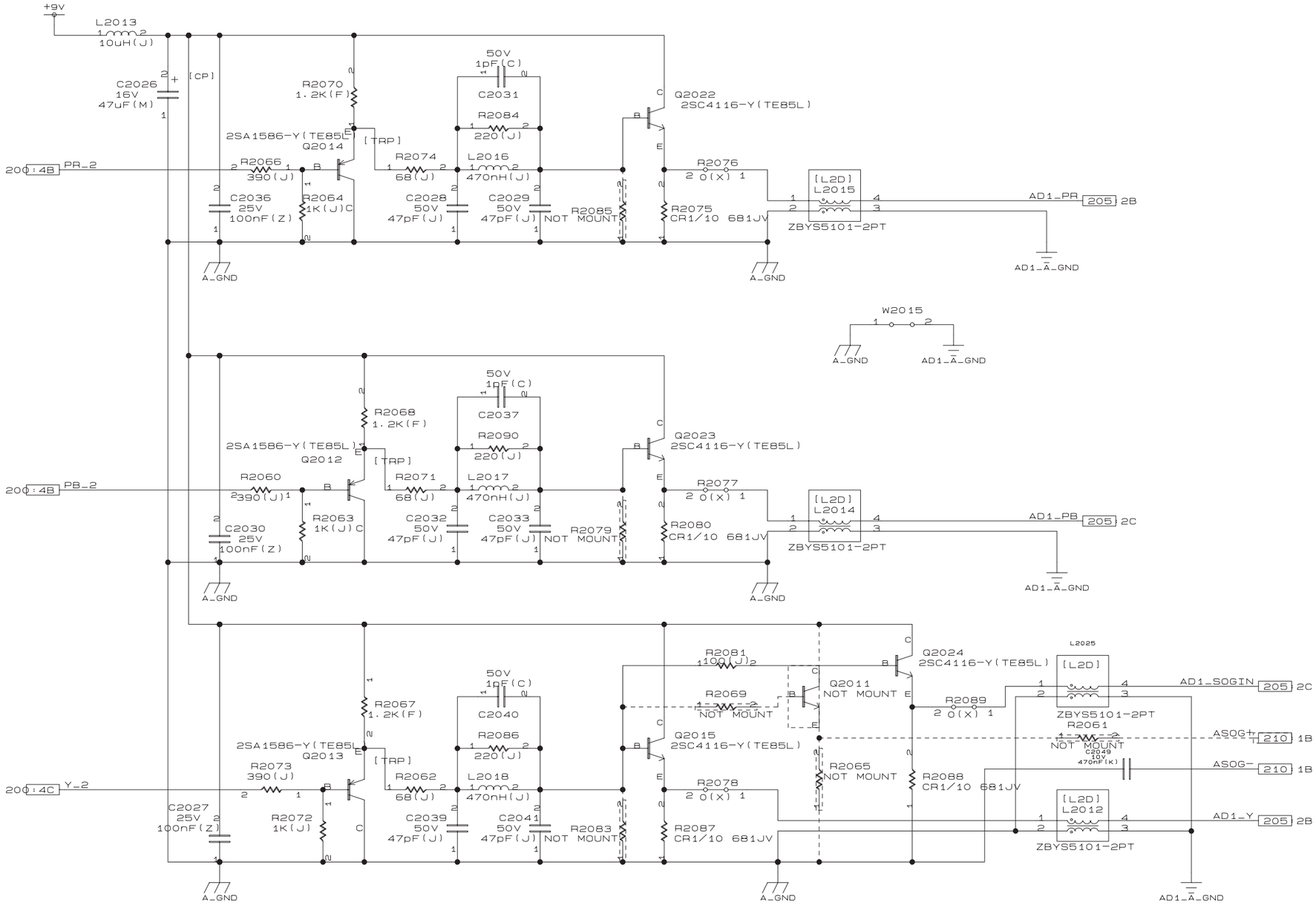




46HM84/52HM84/62HM84
F-AV

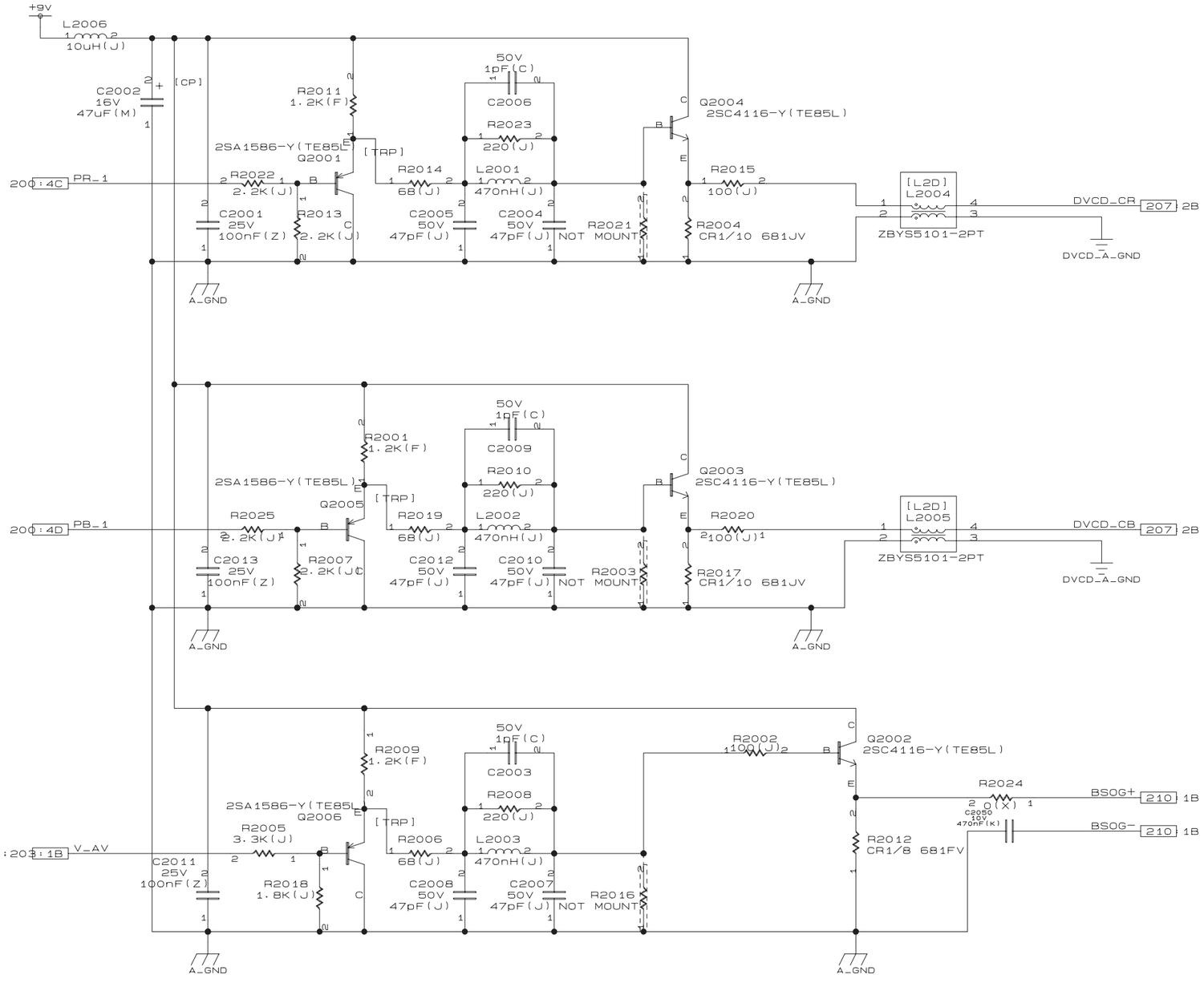

[CN26]
PJ16
26FE-BT-VK-N
G36220345010
L2011
BLM21A121SPT
120ohm
L2022
BLM21A121SPT
120ohm
C2204 50V33pF(J)
C2201 50V33pF(J)
C2210 50V 33pF(J)
C2205 50V 33pF(J)
C2208 50V 33pF(J)
C2209 50V 33pF(J)
C2206 50V 33pF(J)
C2207 50V 33pF(J)
C2200 50V 33pF(J)
HD_2 204 : 2B : 206 : 1C
PIP_VD 205 2B : 206 : 1D : 601 : 2C
PR_2 201 : 1B
PB_2 201 : 1C
Y_2 201 : 1E
PR_1 202 : 1B
PB_1 202 : 1C
V_AV 202 : 1E : 203 : 1B
C_AV 203 : 2D
W2011
W2010
NOT MOUNT
W8011
MOUNT
W2009
L2023
220hm 100MHz
F_GND
A_GND
[FL1]
L2021
MEM2012TC151
[FL1]
L2020
MEM2012TC151
+9V
C2203 100nF(Z) 25V
R2177 2.7K(J)
2SA1586-Y(TE85L)
Q2021
[TRP]
R2176 100(J)
V_MAIN_MC 604 1B
C2202 100nF(Z) 25V
R2173 2.7K(J)
R2174 100(J)
V_SUB_MC 604 1D
2SA1586-Y(TE85L)
Q2020
[TRP]
100(J) R2175
100(J) R2172
46HM84/52HM84/62HM84
AV_CONNECTOR
SH. NO.
200

(10/52)



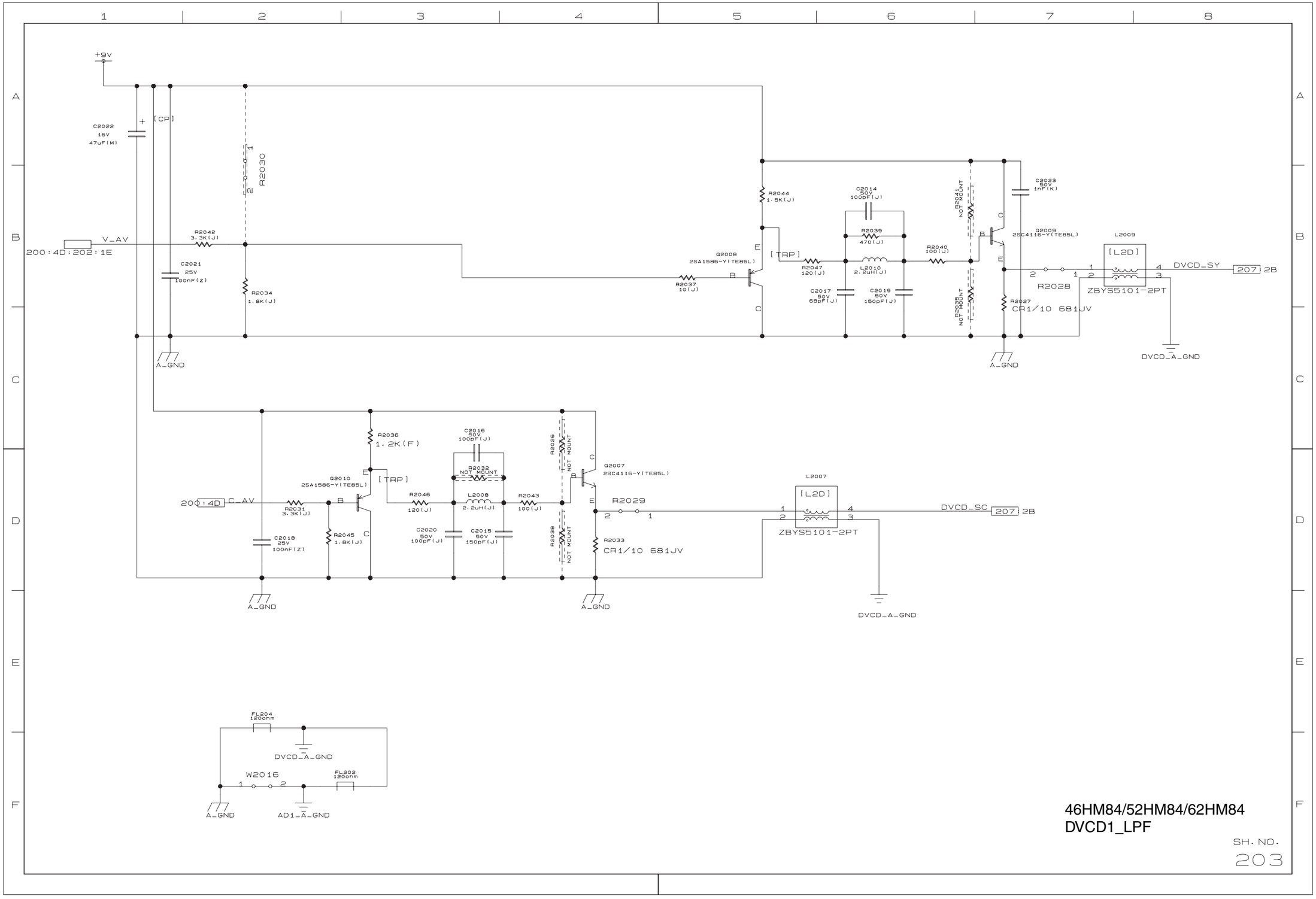
46HM84/52HM84/62HM84
AD_LPF

SH. NO.
201



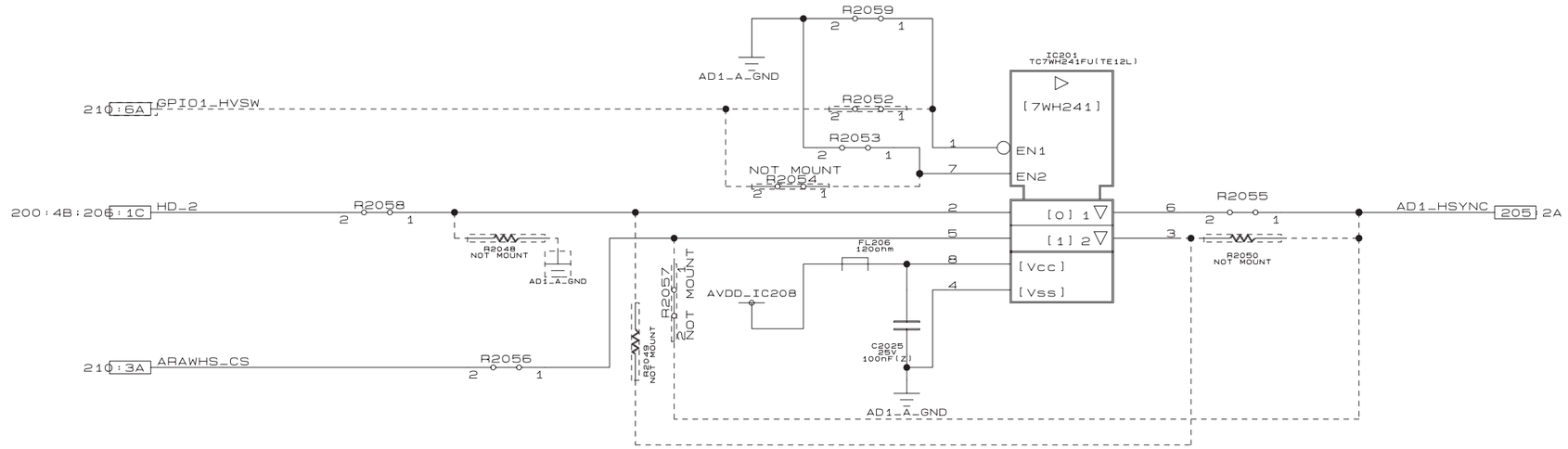
46HM84/52HM84/62HM84
DVCD2_LPF

SH. NO.
202



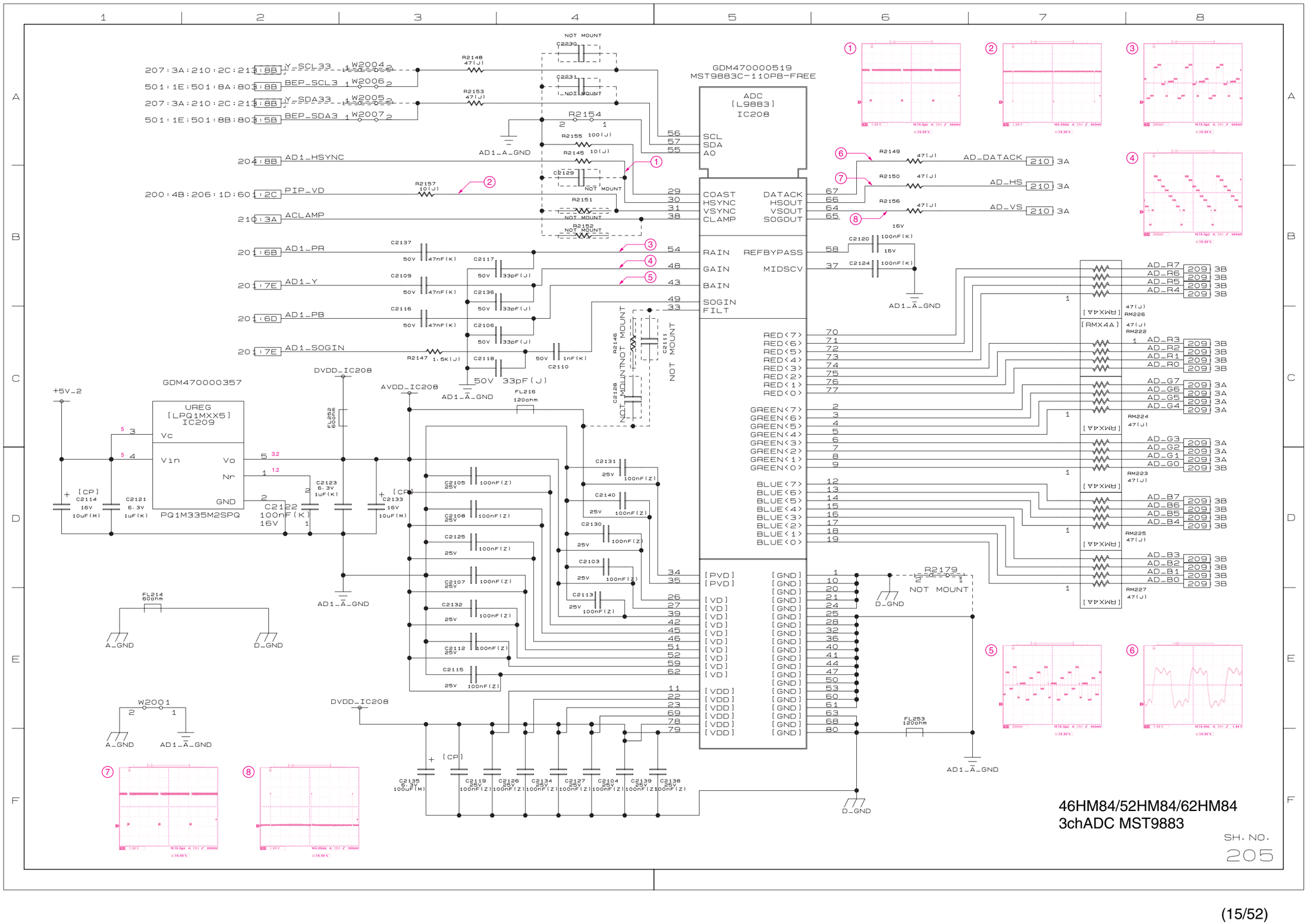
46HM84/52HM84/62HM84
DVCD1_LPF

SH. NO.
203



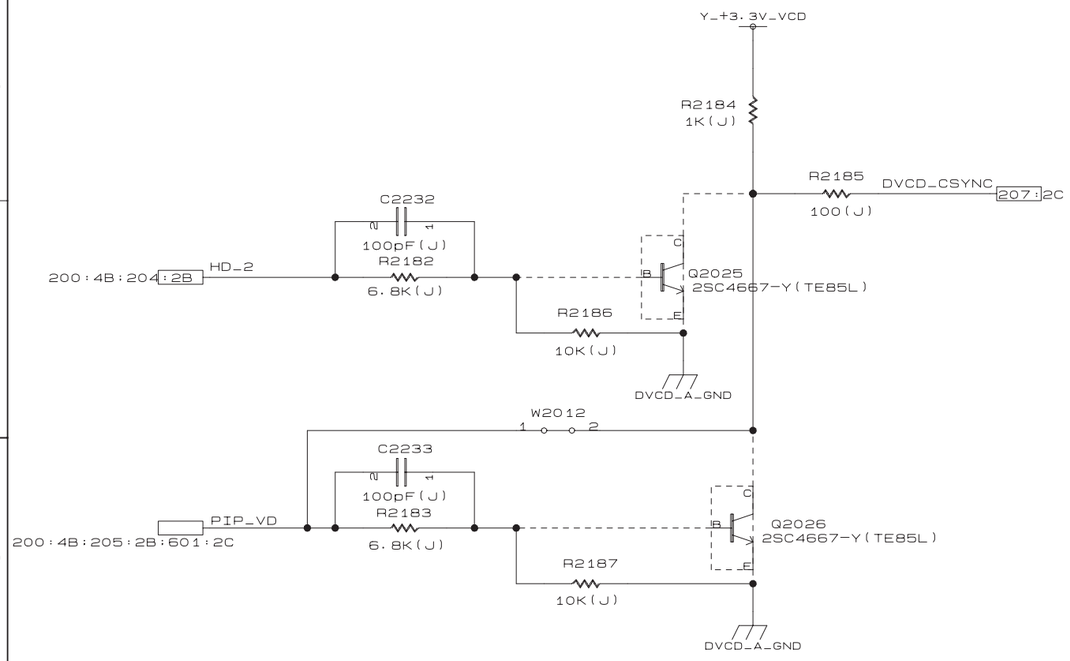
46HM84/52HM84/62HM84
3chADC HD

SH. NO.
204



46HM84/52HM84/62HM84
3chADC MST9883

SH. NO.
205



46HM84/52HM84/62HM84
DVCD CSYNCIN

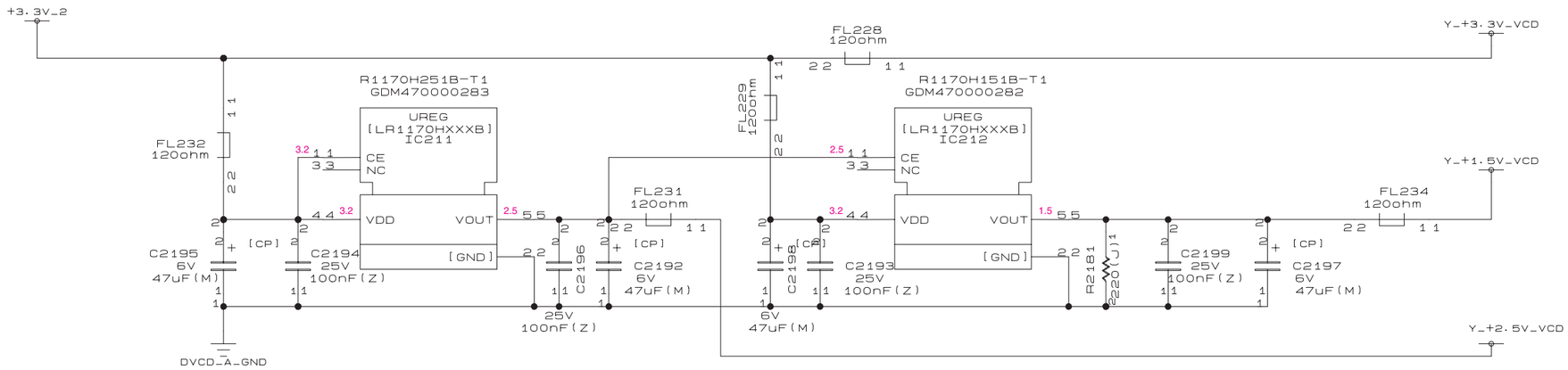
SH. NO.
206

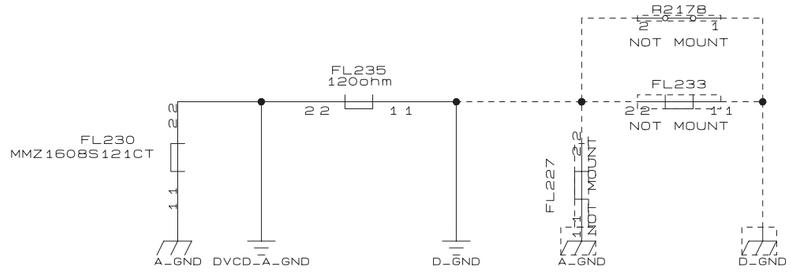
TC90A92AFG(BH.DRY)
GDM450000259

VIDEO DECODER
[U90A92]
IC210

46HM84/52HM84/62HM84
DVCD TC90A92AFG

SH. NO.
207





46HM84/52HM84/62HM84
DVCD POWER

SH. NO.
208

GM6015BD-LF
GDM460000748

[U6015]
IC203

AD_G7 163
AD_G6 164
AD_G5 165
AD_G4 168
AD_G3 169
AD_G2 170
AD_G1 171
AD_G0 172
AD_B7 173
AD_B6 174
AD_B5 175
AD_B4 176
AD_B3 177
AD_B2 178
AD_B1 179
AD_B0 180
AD_R7 181
AD_R6 182
AD_R5 183
AD_R4 186
AD_R3 187
AD_R2 188
AD_R1 189
AD_R0 190

ADATA23 ADATA22 ADATA21 ADATA20 ADATA19 ADATA18 ADATA17 ADATA16
ADATA15 ADATA14 ADATA13 ADATA12 ADATA11 ADATA10 ADATA9 ADATA8
ADATA7 ADATA6 ADATA5 ADATA4 ADATA3 ADATA2 ADATA1 ADATA0

DVCD_DATA7 R2093 16
DVCD_DATA6 R2094 18
DVCD_DATA5 R2095 19
DVCD_DATA4 R2097 20
DVCD_DATA3 R2096 22
DVCD_DATA2 R2098 23
DVCD_DATA1 R2099 24
DVCD_DATA0 R2100 25

DVCD_BDATA15 28
DVCD_BDATA14 29
DVCD_BDATA13 30
DVCD_BDATA12 31
DVCD_BDATA11 32
DVCD_BDATA10 34
DVCD_BDATA9 35
DVCD_BDATA8 36
DVCD_BDATA7 37
DVCD_BDATA6 38
DVCD_BDATA5 39
DVCD_BDATA4 42
DVCD_BDATA3 43
DVCD_BDATA2 44
DVCD_BDATA1 45
DVCD_BDATA0 46

BDATA23 BDATA22 BDATA21 BDATA20 BDATA19 BDATA18 BDATA17 BDATA16
BDATA15 BDATA14 BDATA13 BDATA12 BDATA11 BDATA10 BDATA9 BDATA8
BDATA7 BDATA6 BDATA5 BDATA4 BDATA3 BDATA2 BDATA1 BDATA0

MDO_MD31 96
MDO_MD30 94
MDO_MD29 93
MDO_MD28 92
MDO_MD27 91
MDO_MD26 90
MDO_MD25 88
MDO_MD24 87
MDO_MD23 97
MDO_MD22 98
MDO_MD21 99
MDO_MD20 100
MDO_MD19 101
MDO_MD18 102
MDO_MD17 103
MDO_MD16 104
MDO_MD15 142
MDO_MD14 140
MDO_MD13 139
MDO_MD12 137
MDO_MD11 136
MDO_MD10 135
MDO_MD9 134
MDO_MD8 133
MDO_MD7 143
MDO_MD6 144
MDO_MD5 145
MDO_MD4 148
MDO_MD3 149
MDO_MD2 151
MDO_MD1 152
MDO_MD0 153

RAMADQ31 RAMADQ30 RAMADQ29 RAMADQ28 RAMADQ27 RAMADQ26 RAMADQ25 RAMADQ24
RAMADQ23 RAMADQ22 RAMADQ21 RAMADQ20 RAMADQ19 RAMADQ18 RAMADQ17 RAMADQ16
RAMDQ15 RAMDQ14 RAMDQ13 RAMDQ12 RAMDQ11 RAMDQ10 RAMDQ9 RAMDQ8
RAMDQ7 RAMDQ6 RAMDQ5 RAMDQ4 RAMDQ3 RAMDQ2 RAMDQ1 RAMDQ0

RAMDQ_MSK 132
/RAMWE 131
/RAM_CAS 128
/RAM_RAS 126
/RAMCS 125
RAMBS0 123
RAMBS1 122
RAMCLK 116

RAMADDR10 121
RAMADDR9 113
RAMADDR8 112
RAMADDR7 111
RAMADDR6 110
RAMADDR5 109
RAMADDR4 108
RAMADDR3 107
RAMADDR2 118
RAMADDR1 119
RAMADDR0 120

DDATA0 84
DDATA1 83
DDATA2 81
DDATA3 80
DDATA4 79
DDATA5 78
DDATA6 77
DDATA7 76
DDATA8 75
DDATA9 74
DDATA10 73
DDATA11 72
DDATA12 69
DDATA13 68
DDATA14 67
DDATA15 66
DDATA16 65
DDATA17 64
DDATA18 63
DDATA19 62
DDATA20 61
DDATA21 60
DDATA22 58
DDATA23 57

RM209 47(J) [RMX4A]
LVD_Y0 LVD_Y1 LVD_Y2 LVD_Y3

RM208 47(J) [RMX4A]
LVD_Y4 LVD_Y5 LVD_Y6 LVD_Y7

RM206 47(J) [RMX4A]
LVD_C0 LVD_C1 LVD_C2 LVD_C3

RM205 47(J) [RMX4A]
LVD_C4 LVD_C5 LVD_C6 LVD_C7

RM234 47(J) [RMX4A]
LVD_PR0 LVD_PR1 LVD_PR2 LVD_PR3

RM235 47(J) [RMX4A]
LVD_PR4 LVD_PR5 LVD_PR6 LVD_PR7

RM202 47(J) [RMX4A]
MAO_MA9 MAO_MA8 MAO_MA7

RM203 47(J) [RMX4A]
MAO_MA6 MAO_MA5 MAO_MA4 MAO_MA3

RM201 47(J) [RMX4A]
MAO_MA2 MAO_MA1 MAO_MA0 MAO_MA10

RM207 47(J) [RMX4A]
MAO_DQM MAO_WE MAO_CAS MAO_BAS

RM204 47(J) [RMX4A]
MAO_CS MAO_BS0 MAO_BS1

R2101 47(J)
MAO_MCLK

46HM84/52HM84/62HM84
GENESIS(1/2)
SHEET-1/2

SH. NO.
209

GM6015BD-LF
GDM460000748

[U6015]
IC203

AD_VS
ACLAMP
AD_DATACK
AD_HS
ARAWHS_CS

GENESIS_VDD_3.3V
CSS_3.3V

BSOG+
BSOG-
ASOG-
ASOG+
NOT MOUNT

DVCD_VD
BCLAMP
DVCD_HD
DVCD_BCLK
Y_SCL33
Y_SDA33
Y_RESET
G_IRQ

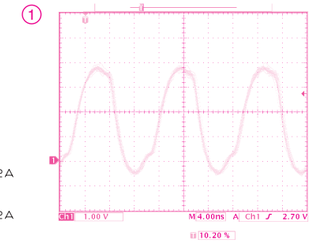
D_GND
CSS_GND
PLL_GND
AVDD_3.3

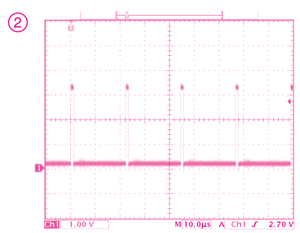
GDM1000000113
X2001
14.31818MHz

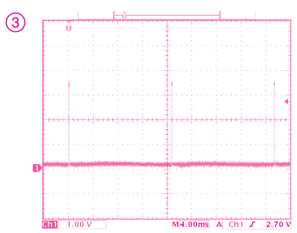
GPIO1_HVSW
LVD_CLK
LVD_HS
LVD_VS
LVD_VS_BEPMCU

MEMI/O_3.3
MEMI/O_CVDD_2.5
CVDD_2.5

[CP]

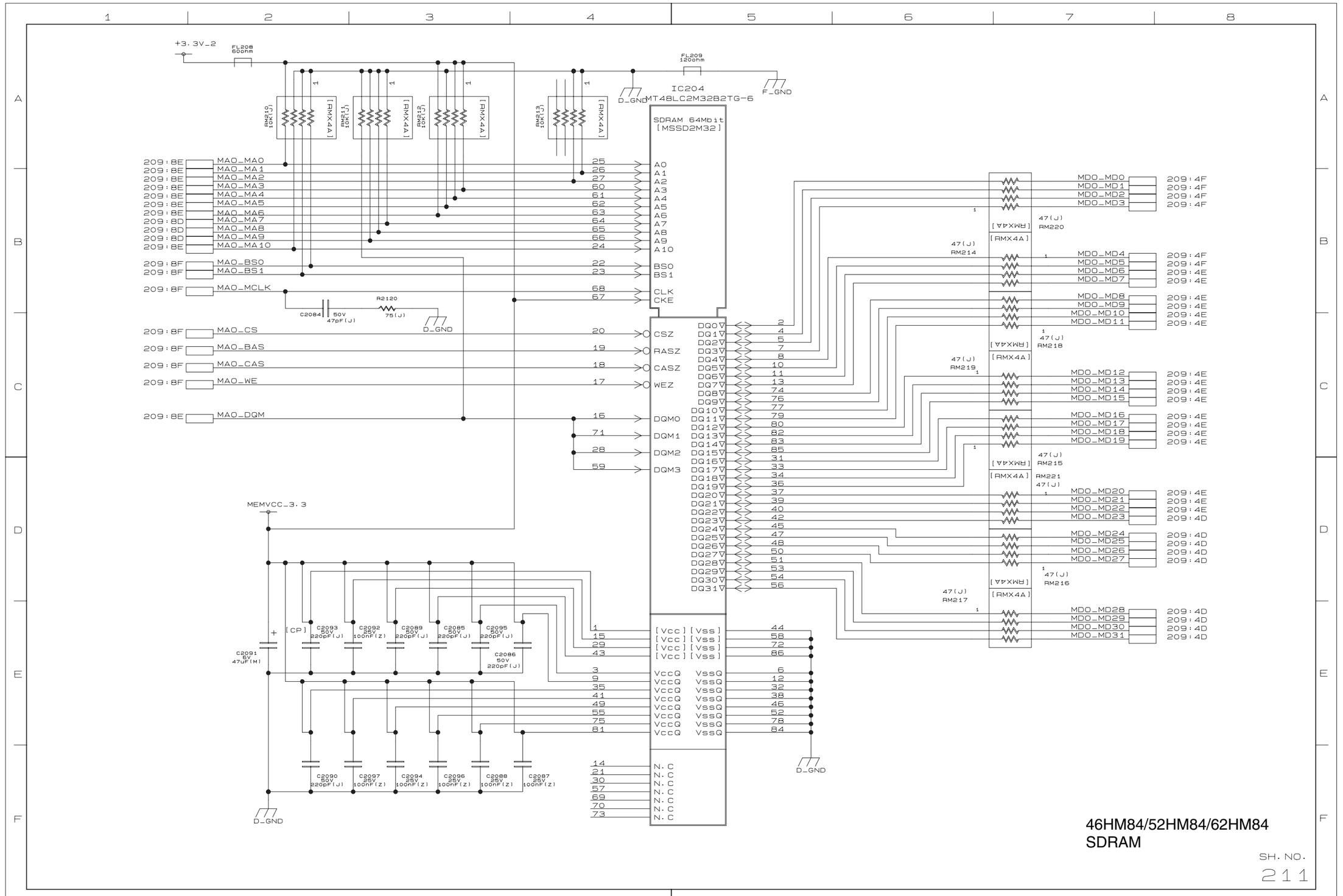






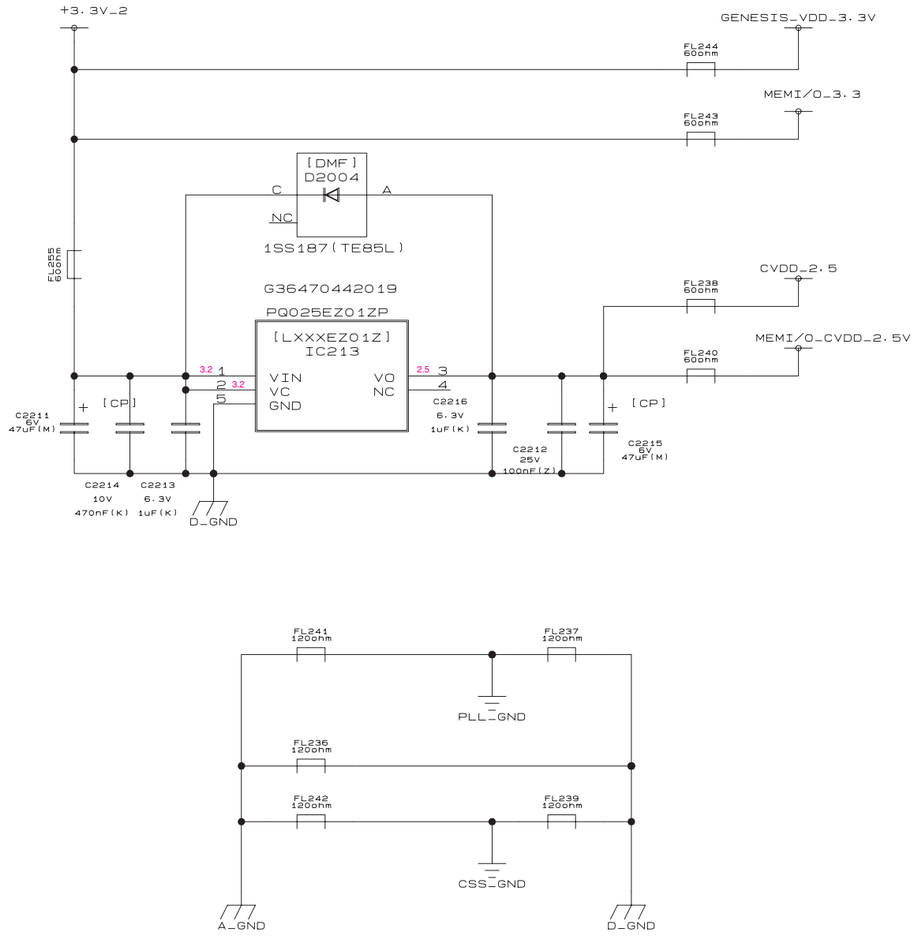
46HM84/52HM84/62HM84
GENESIS (2/2)
SHEET-2/2

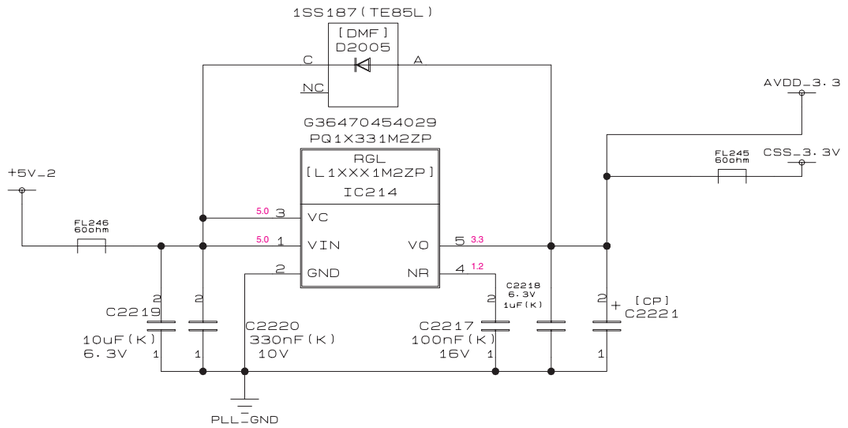
SH. NO.
210



46HM84/52HM84/62HM84
SDRAM

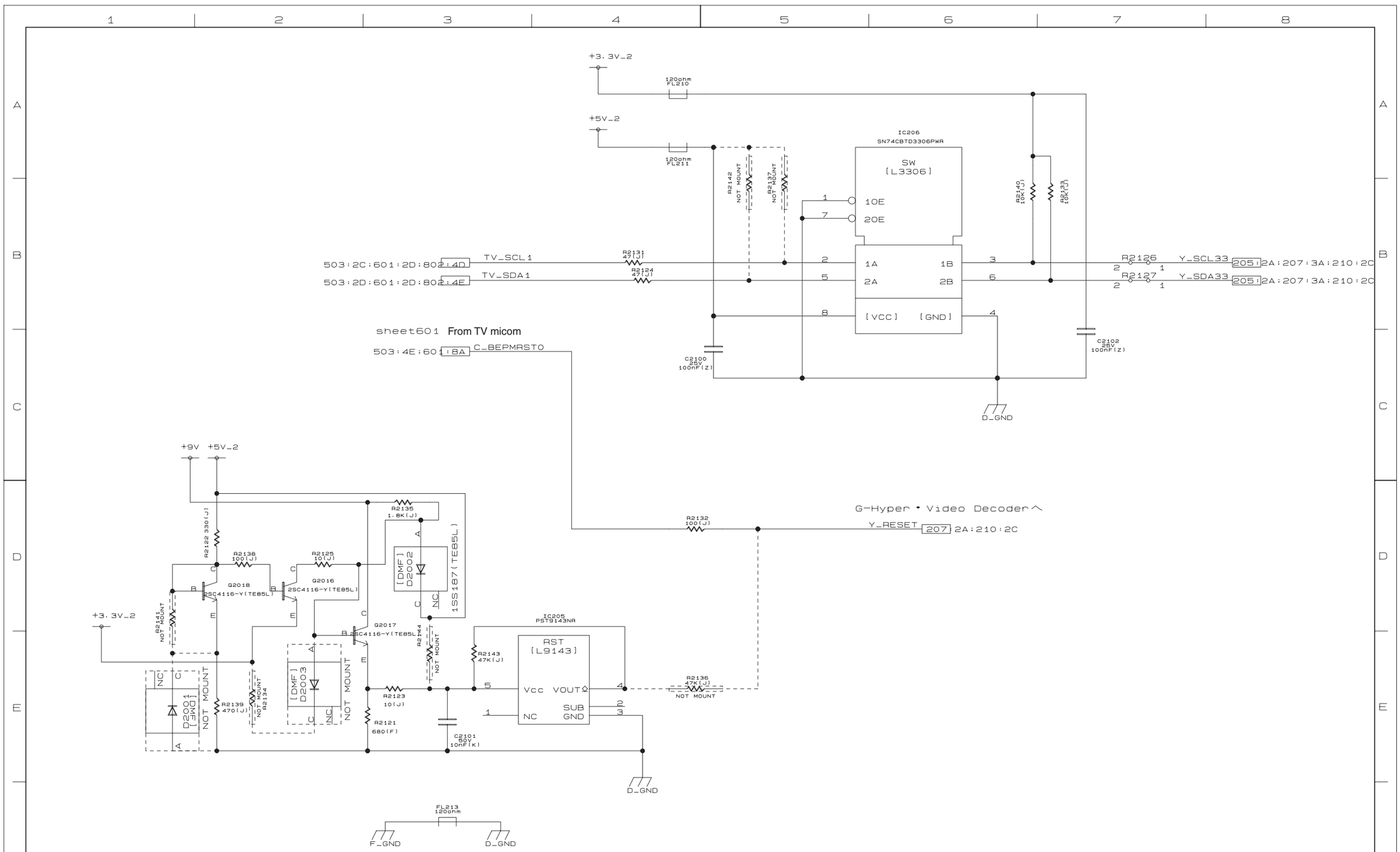
SH. NO.
211





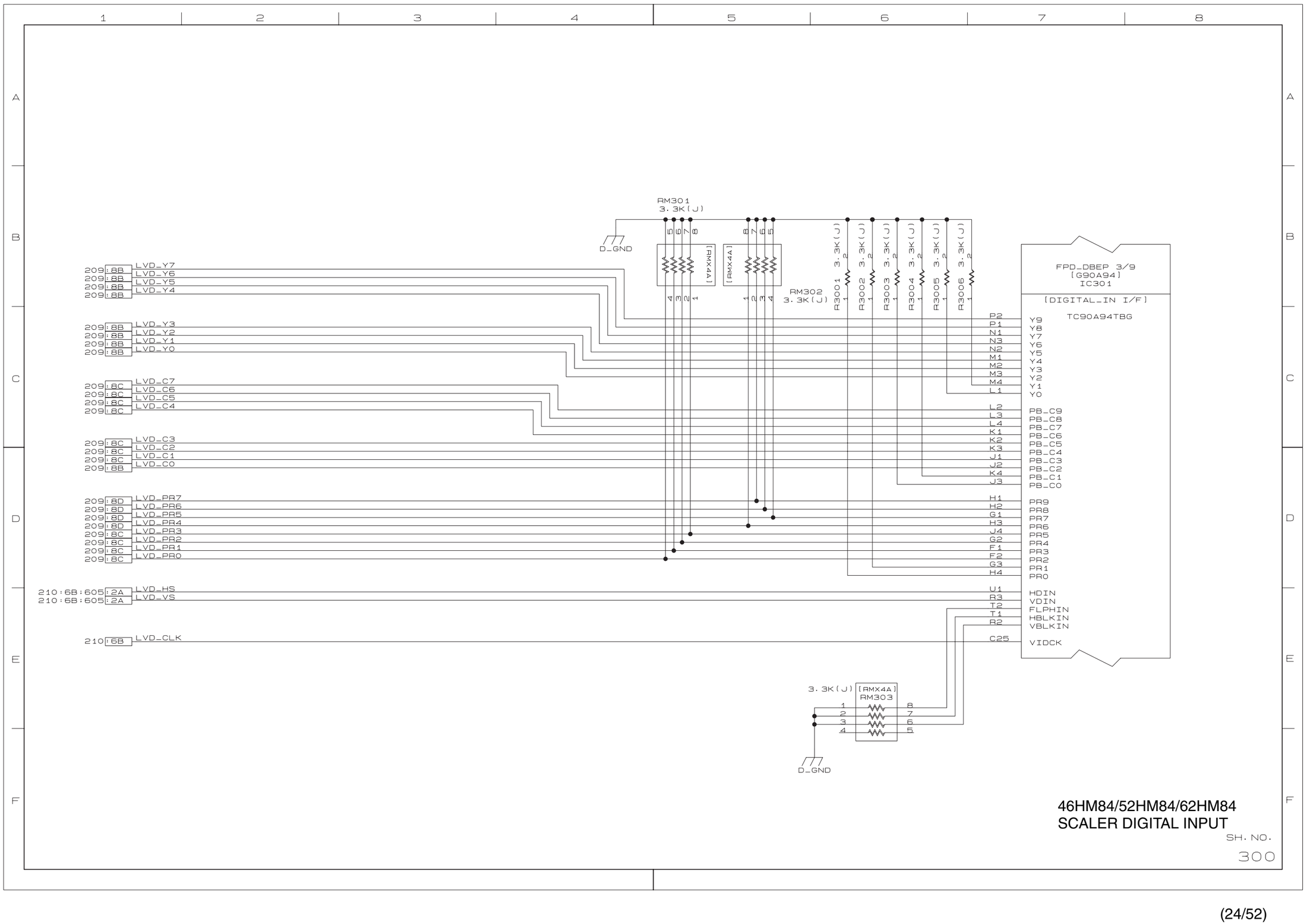
46HM84/52HM84/62HM84
GENESIS_POWER

SH. NO.
212



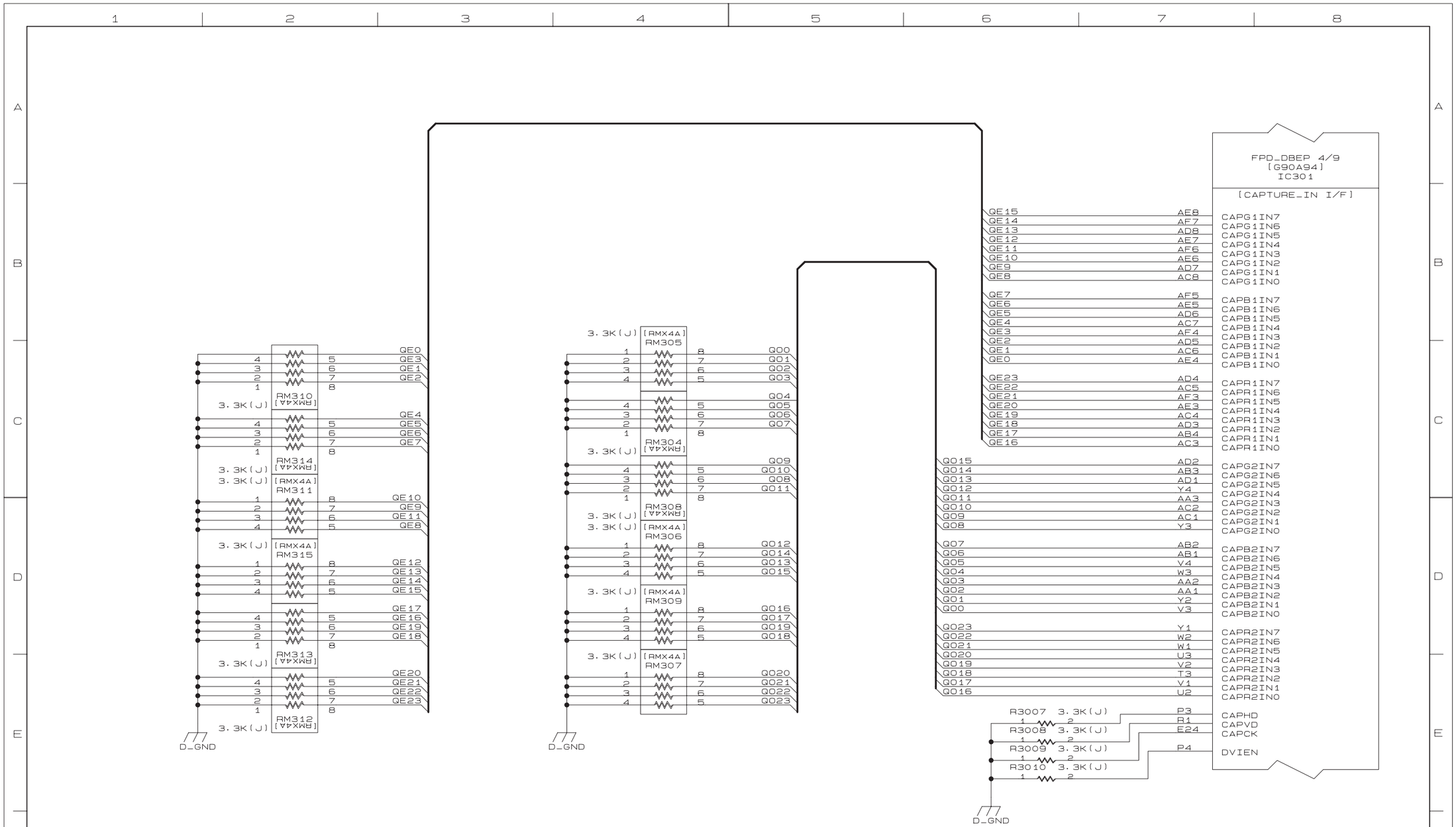
46HM84/52HM84/62HM84
GENESIS_IIC

SH. NO.
213



46HM84/52HM84/62HM84
SCALER DIGITAL INPUT

SH. NO.
300



46HM84/52HM84/62HM84
SCALER CAPTURE INPUT

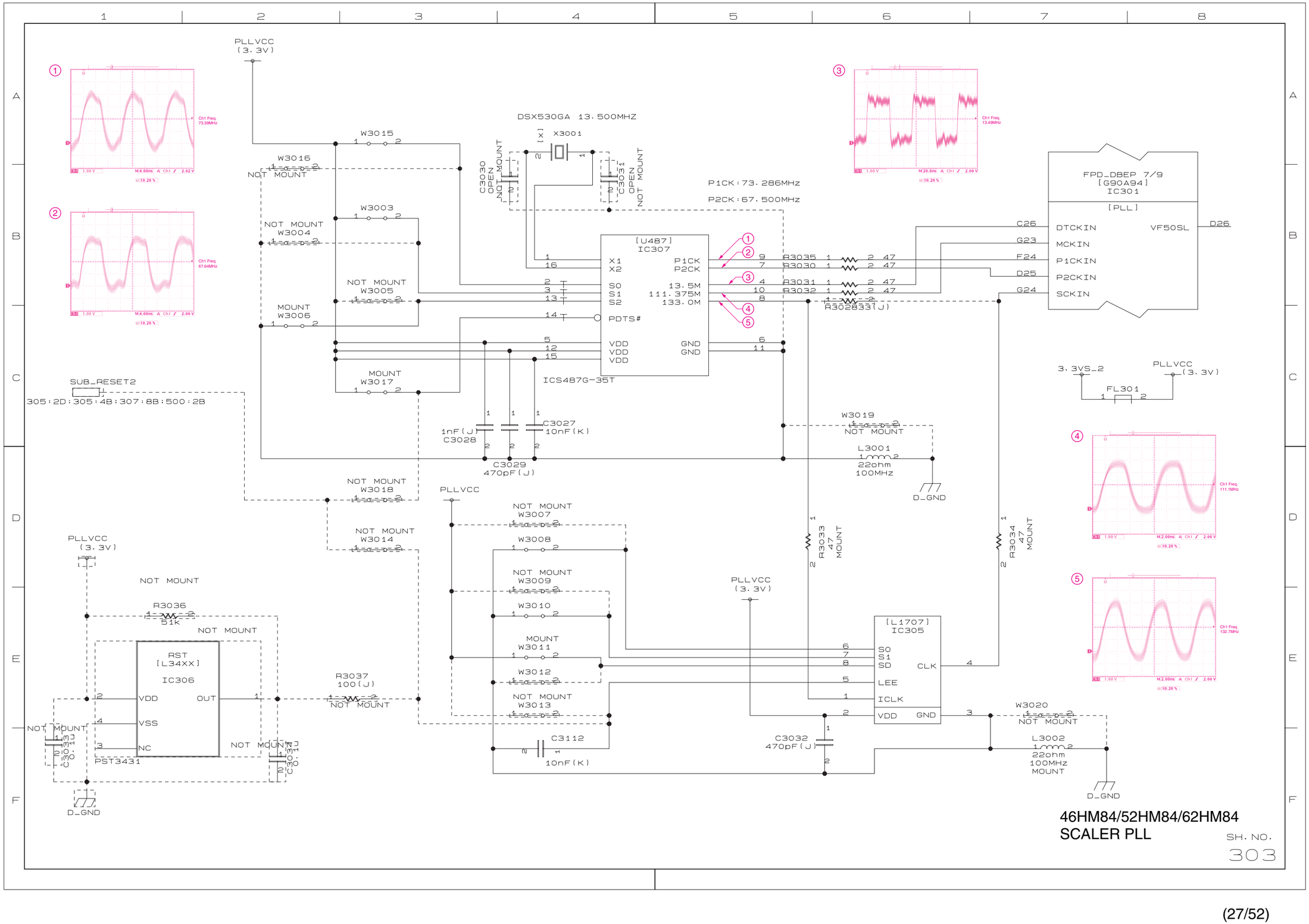
SH. NO.
301

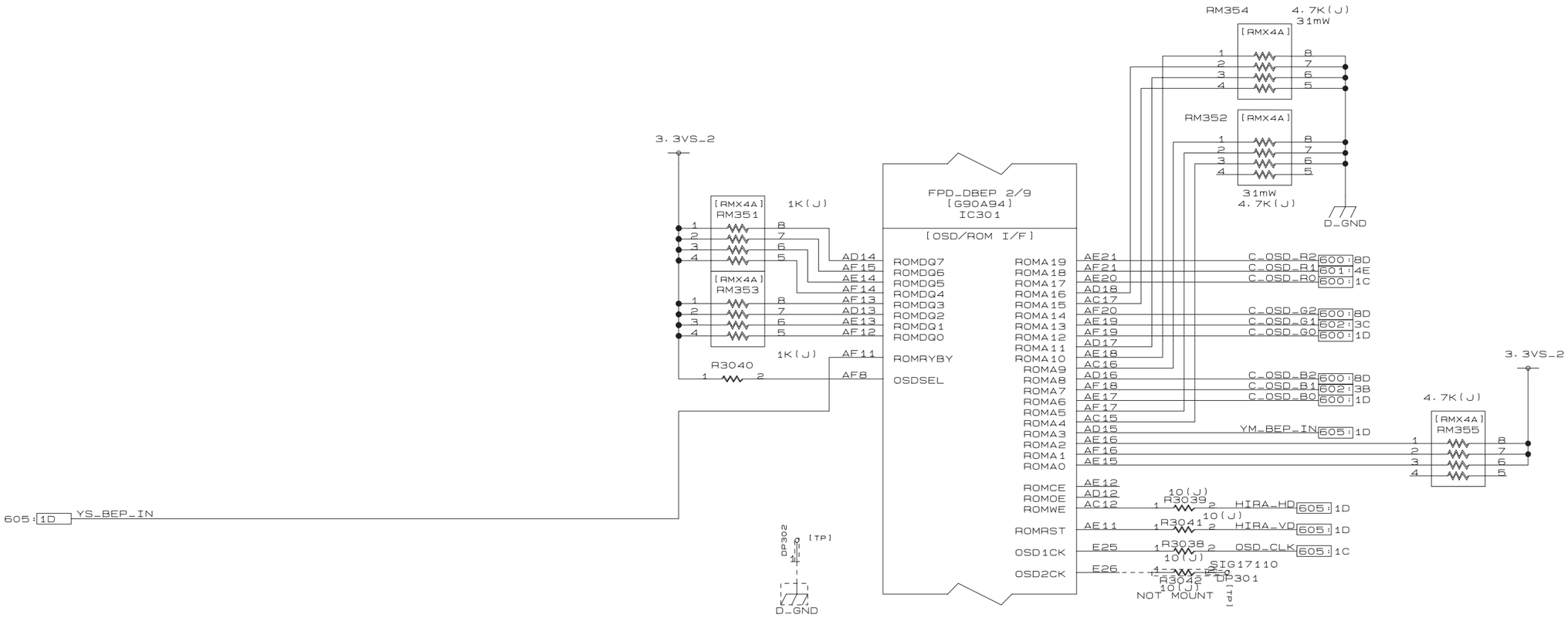
FPD_DBEP 6/9
[G90A94]
IC301
[SDRAM I/F]

DDR SDRAM
128Mbit
[MDSD4M32]
IC302
K4D263238F-UC50

REG.
[L2995]
IC303

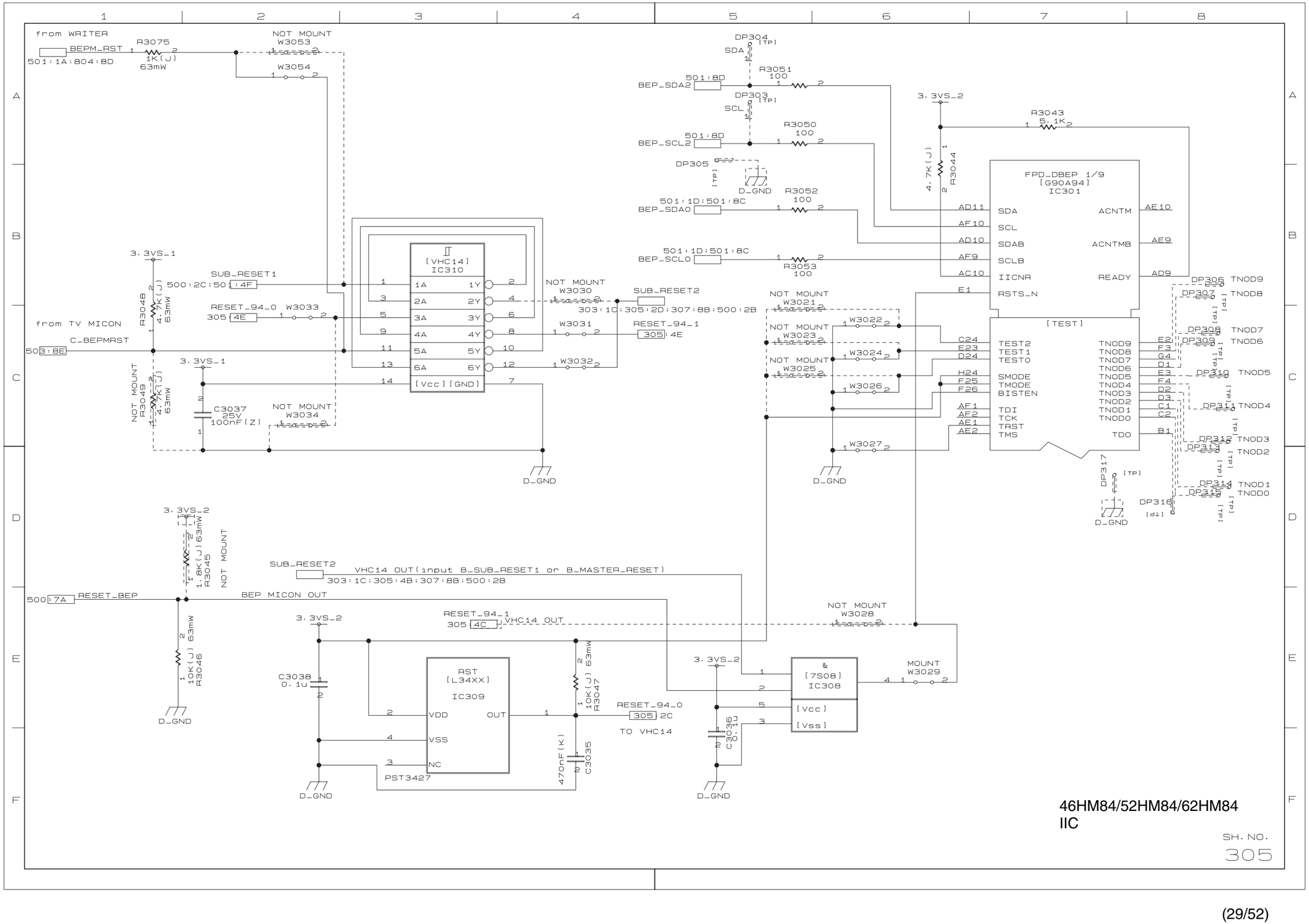
46HM84/52HM84/62HM84 SH. NO.
DDR SDRAM 302


PLLVCC (3.3V)
DSX530GA 13.500MHZ
X3001
C3030 OPEN NOT MOUNT
C3031 OPEN NOT MOUNT
W3015
W3016 NOT MOUNT
W3003
NOT MOUNT W3004
NOT MOUNT W3005
MOUNT W3006
MOUNT W3017
P1CK : 73.286MHz
P2CK : 67.500MHz
[U487] IC307
X1
X2
SO
S1
S2
PDTS#
VDD
VDD
VDD
P1CK
P2CK
13.5M
111.375M
133.0M
GND
GND
ICS487G-35T
R3035 47
R3030 47
R3031 47
R3032 47
R3028 33(J)
FPD_DBEP 7/9 [G90A94] IC301
[PLL]
DTCKIN
MCKIN
P1CKIN
P2CKIN
SCKIN
VF50SL
C26
G23
F24
D25
G24
D26
3.3VS_2
PLLVCC (3.3V)
FL301
SUB_RESET2
305:2D:305:4B:307:8B:500:2B
C3027 10nF(K)
1nF(J) C3028
C3029 470pF(J)
W3019 NOT MOUNT
L3001 22ohm 100MHz
D_GND
NOT MOUNT W3018
NOT MOUNT W3014
PLLVCC
NOT MOUNT W3007
W3008
NOT MOUNT W3009
W3010
MOUNT W3011
W3012
NOT MOUNT W3013
C3112 10nF(K)
R3033 47 MOUNT
R3034 47 MOUNT
PLLVCC (3.3V)
[L1707] IC305
SO
S1
SD
LEE
ICLK
VDD
CLK
GND
C3032 470pF(J)
W3020 NOT MOUNT
L3002 22ohm 100MHz MOUNT
D_GND
PLLVCC (3.3V)
NOT MOUNT
R3036 51K
NOT MOUNT
RST [L34XX] IC306
VDD
VSS
NC
OUT
PST3431
NOT MOUNT C3033 0.1U
NOT MOUNT C3034 0.1U
R3037 100(J) NOT MOUNT
D_GND
46HM84/52HM84/62HM84
SCALER PLL
SH. NO.
303



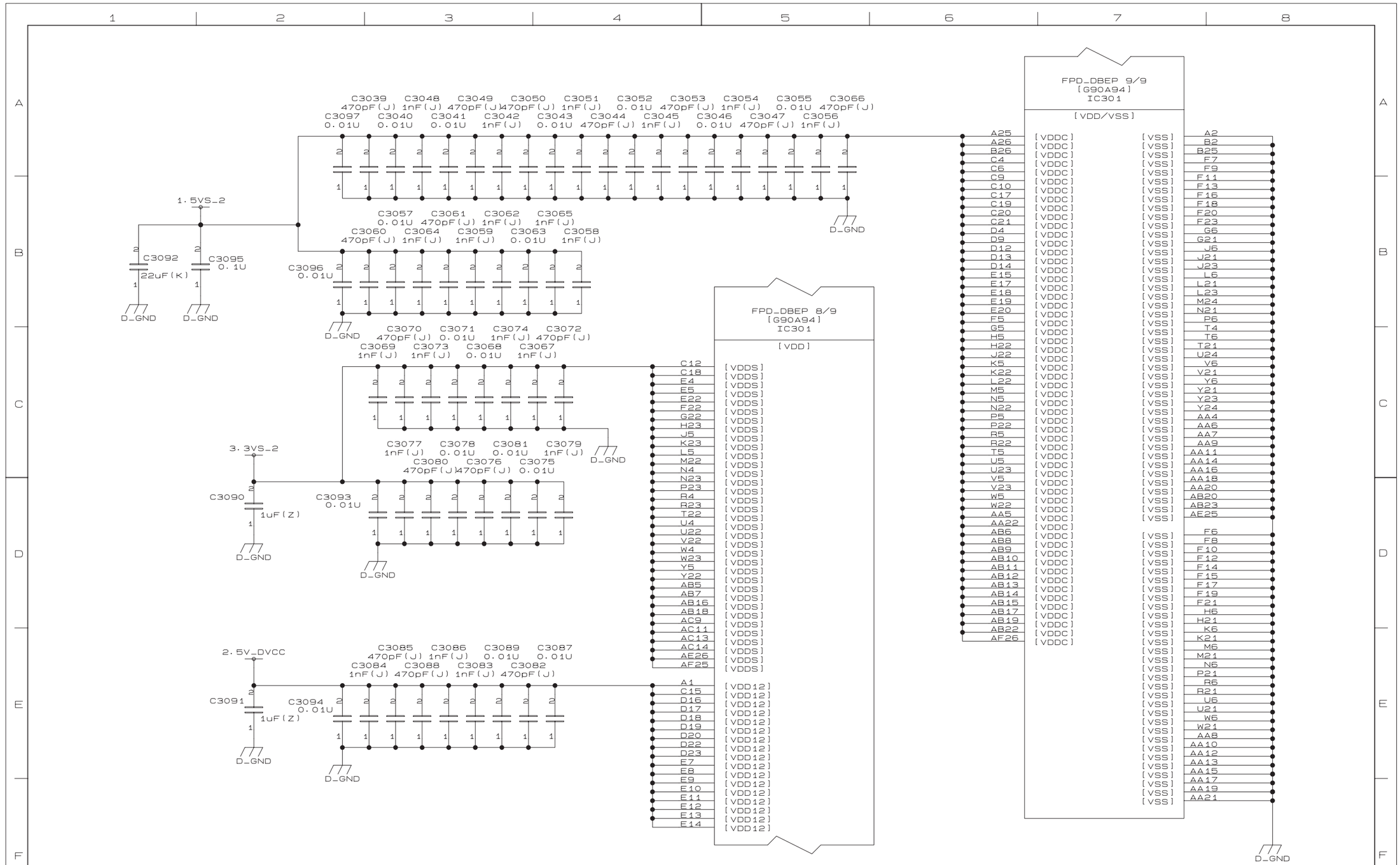
46HM84/52HM84/62HM84
OSD for North America

SH. NO.
304



46HM84/52HM84/62HM84
IIC

SH. NO.
305


FPD_DBEP 9/9
[G90A94]
IC301
[VDD/VSS]
FPD_DBEP 8/9
[G90A94]
IC301
[VDD]
C3039 C3048 C3049 C3050 C3051 C3052 C3053 C3054 C3055 C3066
470pF(J) 1nF(J) 470pF(J) 470pF(J) 1nF(J) 0.01U 470pF(J) 1nF(J) 0.01U 470pF(J)
C3097 C3040 C3041 C3042 C3043 C3044 C3045 C3046 C3047 C3056
0.01U 0.01U 0.01U 1nF(J) 0.01U 470pF(J) 1nF(J) 0.01U 470pF(J) 1nF(J)
1.5VS_2
C3092
22uF(K)
C3095
0.1U
D_GND
C3057 C3061 C3062 C3065
0.01U 470pF(J) 1nF(J) 1nF(J)
C3060 C3064 C3059 C3063 C3058
470pF(J) 1nF(J) 1nF(J) 0.01U 1nF(J)
C3096
0.01U
C3070 C3071 C3074 C3072
470pF(J) 0.01U 1nF(J) 470pF(J)
C3069 C3073 C3068 C3067
1nF(J) 1nF(J) 0.01U 1nF(J)
C3077 C3078 C3081 C3079
1nF(J) 0.01U 0.01U 1nF(J)
C3080 C3076 C3075
470pF(J) 470pF(J) 0.01U
3.3VS_2
C3090
1uF(Z)
C3093
0.01U
C3085 C3086 C3089 C3087
470pF(J) 1nF(J) 0.01U 0.01U
C3084 C3088 C3083 C3082
1nF(J) 470pF(J) 1nF(J) 470pF(J)
2.5V_DVCC
C3091
1uF(Z)
C3094
0.01U
C12 C18 E4 E5 E22 F22 G22 H23 J5 K23 L5 M22 N4 N23 P23 R4 R23 T22 U4 U22 V22 W4 W23 Y5 Y22 AB5 AB7 AB16 AB18 AC9 AC11 AC13 AC14 AE26 AF25 [VDDS]
A1 C15 D16 D17 D18 D19 D20 D22 D23 E7 E8 E9 E10 E11 E12 E13 E14 [VDD12]
A25 A26 B26 C4 C6 C9 C10 C17 C19 C20 C21 D4 D9 D12 D13 D14 E15 E17 E18 E19 E20 F5 G5 H5 H22 J22 K5 K22 L22 M5 N5 N22 P5 P22 R5 R22 T5 U5 U23 V5 V23 W5 W22 AA5 AA22 AB6 AB8 AB9 AB10 AB11 AB12 AB13 AB14 AB15 AB17 AB19 AB22 AF26 [VDDC]
A2 B2 B25 F7 F9 F11 F13 F16 F18 F20 F23 G6 G21 J6 J21 J23 L6 L21 L23 M24 N21 P6 T4 T6 T21 U24 V6 V21 Y6 Y21 Y23 Y24 AA4 AA6 AA7 AA9 AA11 AA14 AA16 AA18 AA20 AB20 AB23 AE25 [VSS]
F6 F8 F10 F12 F14 F15 F17 F19 F21 H6 H21 K6 K21 M6 M21 N6 P21 R6 R21 U6 U21 W6 W21 AA8 AA10 AA12 AA13 AA15 AA17 AA19 AA21 [VSS]
D_GND
46HM84/52HM84/62HM84
94TB POWER
SH. NO.
306

L : Phase 1
H: Phase 2

FPD_DBEP 5/9
[G90A94]
IC301

[PANEL I/F]

AD20 OUTPHASE
AE22 PANELSETUP3
AF22 PANELSETUP2
AC18 PANELSETUP1
AD19 PANELSETUP0

G1OUT9 G25
G1OUT8 J24
G1OUT7 G26
G1OUT6 H25
G1OUT5 H26
G1OUT4 K24
G1OUT3 J25
G1OUT2 L24
G1OUT1 J26
G1OUT0 K25

B1OUT9 K26
B1OUT8 M23
B1OUT7 L25
B1OUT6 L26
B1OUT5 M25
B1OUT4 N24
B1OUT3 M26
B1OUT2 N25
B1OUT1 N26
B1OUT0 P26

R1OUT9 P24
R1OUT8 P25
R1OUT7 R26
R1OUT6 R25
R1OUT5 R24
R1OUT4 T26
R1OUT3 T25
R1OUT2 T24
R1OUT1 T23
R1OUT0 U26

G2OUT9 U25
G2OUT8 V26
G2OUT7 V25
G2OUT6 V24
G2OUT5 W26
G2OUT4 W25
G2OUT3 Y26
G2OUT2 W24
G2OUT1 Y25
G2OUT0 AA26

B2OUT9 AA25
B2OUT8 AB26
B2OUT7 AB25
B2OUT6 AA24
B2OUT5 AC26
B2OUT4 AB24
B2OUT3 AA23
B2OUT2 AC25
B2OUT1 AC24
B2OUT0 AD26

R2OUT9 AD25
R2OUT8 AC23
R2OUT7 AD24
R2OUT6 AB21
R2OUT5 AC22
R2OUT4 AD23
R2OUT3 AE24
R2OUT2 AC21
R2OUT1 AD22
R2OUT0 AF24

CKPANEL AC20
HDOUT AD21
VDOUT AE23
DEOUT AF23
PARITY AC19

NOT MOUNT 4.7K(J) R3054 3.3VS_2
NOTMOU 4.7K(J) R3055
R3056 NOT MOUNT 3.3VS_2
R3057 4.7K(J)
R3058 NOT MOUNT
R3059 NOT MOUNT
4.7K(J) R3060
NOT MOUNT R3061
R3062 4.7K(J)
R3063 4.7K(J)
D_GND

[RMX4A] RM356 33(J)
1 G25 8 G1OUT9
2 J24 7 G1OUT8
3 G26 6 G1OUT7
4 H25 5 G1OUT6

[RMX4A] RM357 33(J)
1 K25 8 G1OUT5
2 K26 7 G1OUT4
3 M23 6 G1OUT3
4 L25 5 G1OUT2

[RMX4A] RM358 33(J)
1 L26 8 G1OUT1
2 M25 7 G1OUT0
3 N25 6 B1OUT9
4 N26 5 B1OUT8

[RMX4A] RM359 33(J)
1 P24 8 B1OUT7
2 P25 7 B1OUT6
3 R26 6 B1OUT5
4 R25 5 B1OUT4

[RMX4A] RM360 33(J)
1 R24 8 B1OUT3
2 T26 7 B1OUT2
3 T25 6 B1OUT1
4 T24 5 B1OUT0

[RMX4A] RM361 33(J)
1 T23 8 R1OUT9
2 U26 7 R1OUT8
3 U25 6 R1OUT7
4 V26 5 R1OUT6

[RMX4A] RM362 33(J)
1 V25 8 R1OUT5
2 V24 7 R1OUT4
3 W26 6 R1OUT3
4 W25 5 R1OUT2

[RMX4A] RM363 33(J)
1 Y26 8 R1OUT1
2 W24 7 R1OUT0
3 Y25 6
4 AA26 5

33(J) R3069 CKPANEL
R3070 HDOUT
R3071 VDOUT
R3072 DEOUT

3.3VS_2 NOT MOUNT 4.7K(J) R3066 R3065 4.7K(J) D_GND
4.7K(J) R3067 R3068 NOT MOUNT D_GND
R3064 4.7K(J) NOT MOUNT

MOUNT W3036 PWDN_MUTE 500:5D
NOT MOUNT W3035 SUB_RESET2 303:1C:305:2D:305:4B:500:2B

LVDS TRANSMITTER
[U103]
IC311

/PDWN 13
RS 43
R/F 60
for SHARP
(SELLVDS HIGH)

R1OUT4 33
R1OUT5 34
R1OUT6 35
R1OUT7 36
R1OUT8 37
R1OUT9 38
G1OUT4 40
G1OUT5 41
G1OUT6 42
G1OUT7 44
G1OUT8 45
G1OUT9 46
B1OUT4 48
B1OUT5 49
B1OUT6 50
B1OUT7 52
B1OUT8 53
B1OUT9 54
HDOUT 55
VDOUT 57
DEOUT 58
R1OUT2 59
R1OUT3 61
G1OUT2 62
G1OUT3 63
B1OUT2 64
B1OUT3 1
R1OUT0 4
R1OUT1 5
G1OUT0 6
G1OUT1 8
B1OUT0 9
B1OUT1 11
CKPANEL 12
27
15
7
51

TA0 TA1 TA2 TA3 TA4 TA5 TA6
TB0 TB1 TB2 TB3 TB4 TB5 TB6
TC0 TC1 TC2 TC3 TC4 TC5 TC6
TD0 TD1 TD2 TD3 TD4 TD5 TD6
TE0 TE1 TE2 TE3 TE4 TE5 TE6
CLKIN

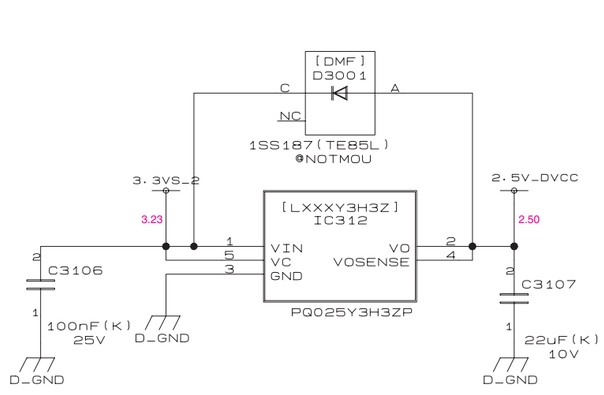
[LVDSVCC] [LVDSGND] [LVDSGND] [LVDSGND]
[PLLVCC] [PLLGND]
[VCC] [VCC] [GND] [GND] [GND] [GND] [GND] [GND]

TA+ 30 [FL09B] FL302 RX0+1 309:1C
TA− 31 RX0−1 309:1B
ACM2012-201-2P-T
TB+ 28 [FL09B] FL303 RX1+1 309:1C
TB− 29 RX1−1 309:1C
TC+ 24 [FL09B] FL304 RX2+1 309:1C
TC− 25 RX2−1 309:1C
TD+ 20 [FL09B] FL305 RX3+1 309:1D
TD− 21 RX3−1 309:1D
TE+ 18 [FL09B] FL306 RX4+1 309:1D
TE− 19 RX4−1 309:1D
TCLK+ 22 [FL09B] FL307 RXCLK+1 309:1D
TCLK− 23 RXCLK−1 309:1C

3.3VS_2 100MHz 220nH L3004 C3099 470pF(J) C3102 10nF(K) D_GND
3.3VS_2 100MHz 220nH L3003 C3100 470pF(J) C3103 C3101 470pF(J) C3104 C3098 470pF(J) C3105 10nF(K) 50V D_GND

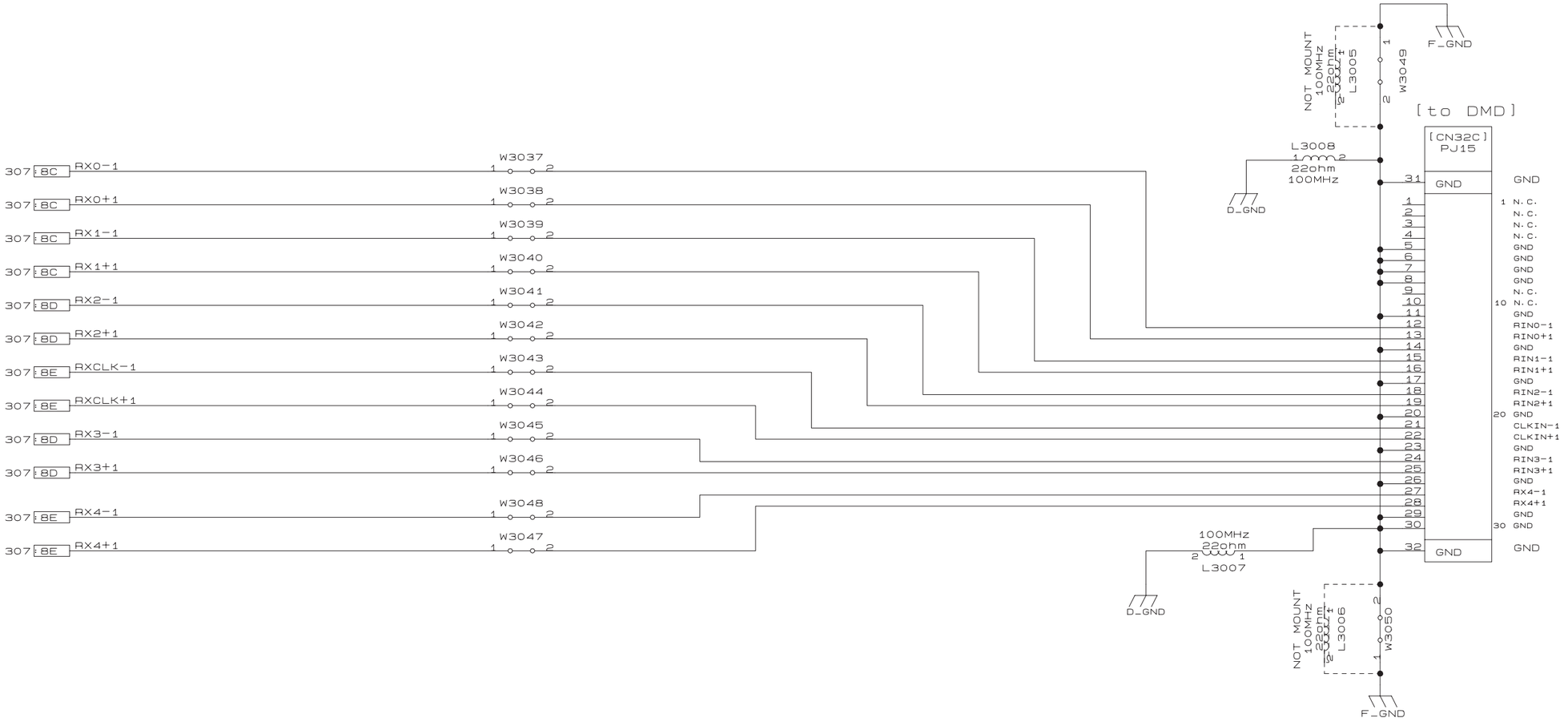
④ ③ ② ①

46HM84/52HM84/62HM84 SH. NO.
LVDS OUT 307



46HM84/52HM84/62HM84
Power (3.3V_2 to 2.5V_DVCC)

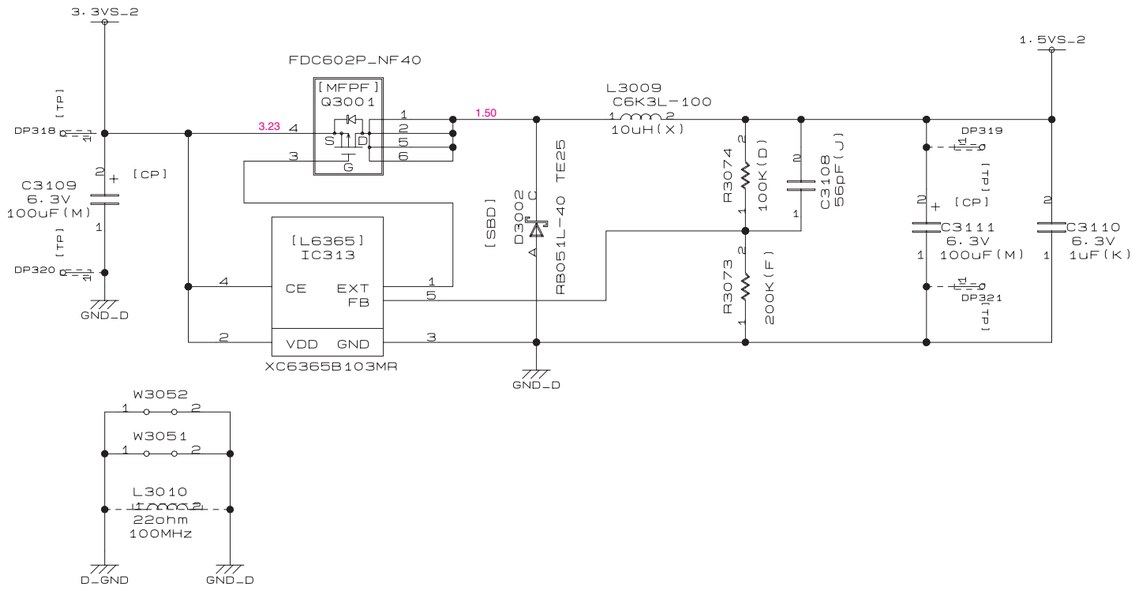
SH. NO.
308



46HM84/52HM84/62HM84
LVDS OUT CONNECTOR

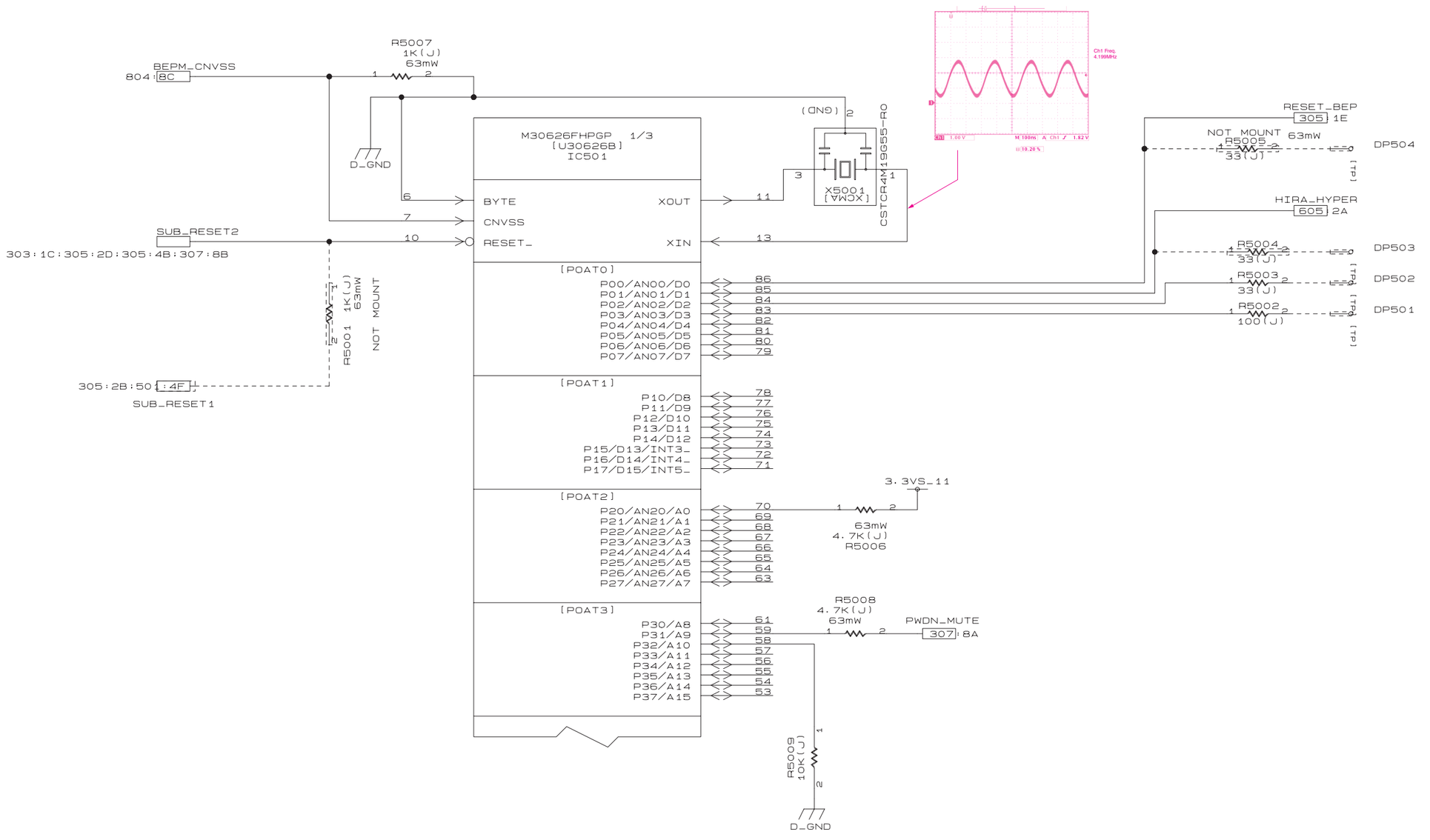
SH. NO.

309



46HM84/52HM84/62HM84
DC/DC CONVERTER

SH. NO.
310



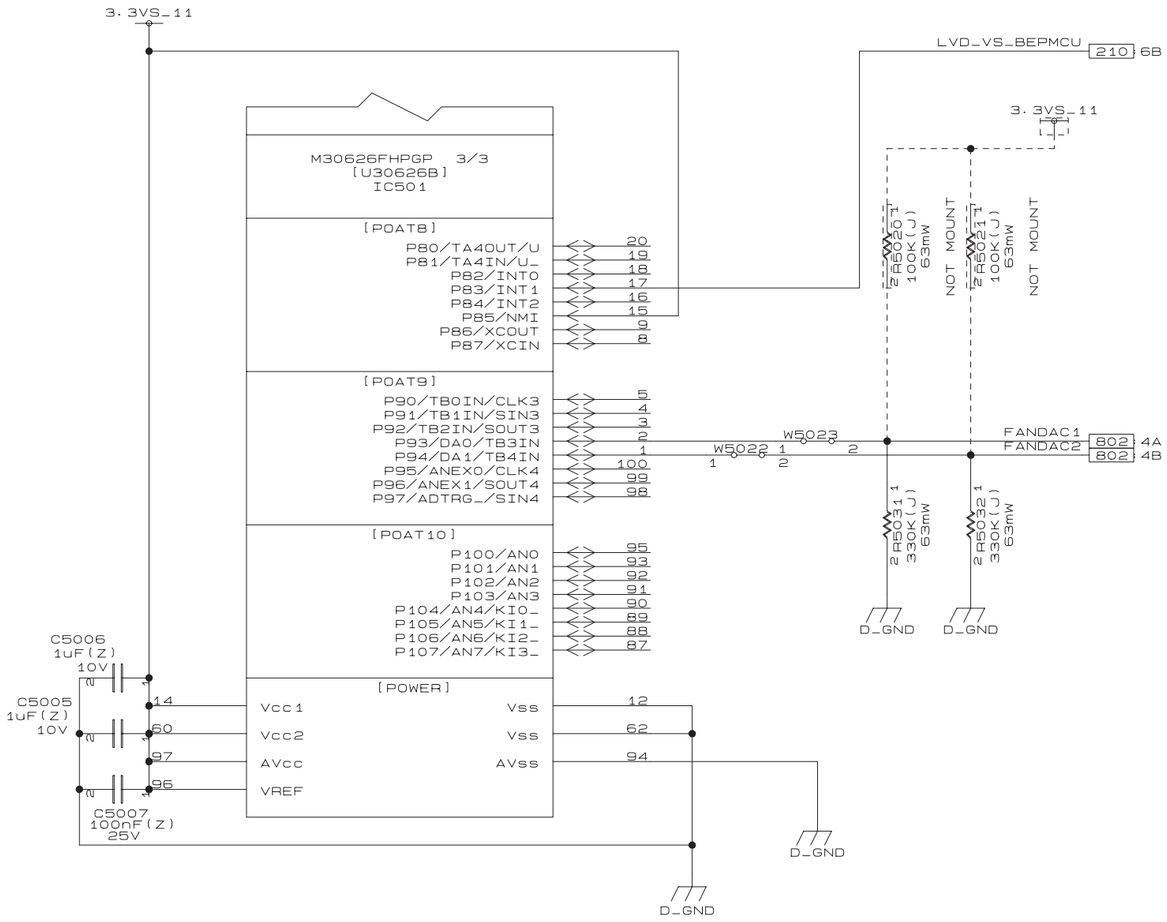
46HM84/52HM84/62HM84
SUB MICON (1/3)
SHEET-1/3

SH. NO.
500

5T03655D

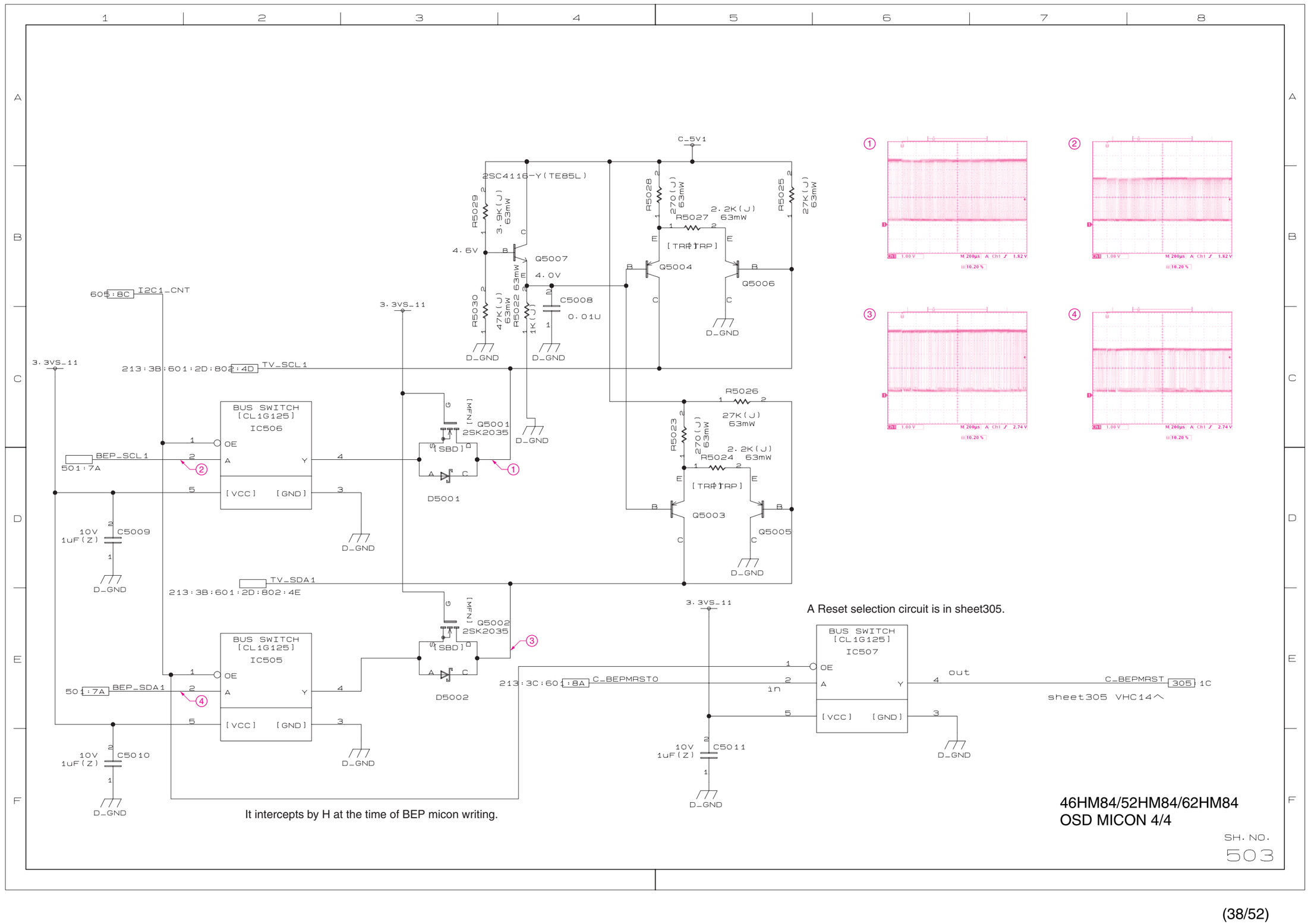
46HM84/52HM84/62HM84
SUB MICON (2/3)
SHEET-2/3

SH. NO.
501



46HM84/52HM84/62HM84
SUB MICON (3/3)
SHEET-3/3

SH. NO.
502

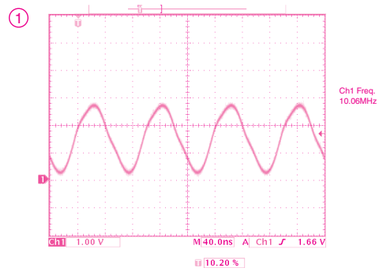

C_5V1
2SC4116-Y(TE85L)
R5029 3.9K(J) 63mW
R5028 270(J) 63mW
R5027 2.2K(J) 63mW
R5025 27K(J) 63mW
[TRAP]
4.6V
Q5007
4.0V
Q5004
Q5006
R5030 47K(J) 63mW
R5022 1K(J)
C5008 0.01U
D_GND
605:8C I2C1_CNT
3.3VS_11
213:3B:601:2D:802:4D TV_SCL1
BUS SWITCH [CL1G125] IC506
OE
A
Y
[VCC]
[GND]
BEP_SCL1
501:7A
C5009 10V 1uF(Z)
Q5001 2SK2035 [MFN]
[SBD]
D5001
R5026 27K(J) 63mW
R5023 270(J) 63mW
R5024 2.2K(J) 63mW
Q5003
Q5005
TV_SDA1
213:3B:601:2D:802:4E
Q5002 2SK2035 [MFN]
D5002
BUS SWITCH [CL1G125] IC505
BEP_SDA1
C5010 10V 1uF(Z)
A Reset selection circuit is in sheet305.
BUS SWITCH [CL1G125] IC507
213:3C:601:8A C_BEPMRST0
in
out
C_BEPMRST 305 1C
sheet305 VHC14
C5011 10V 1uF(Z)
It intercepts by H at the time of BEP micon writing.
46HM84/52HM84/62HM84
OSD MICON 4/4
SH. NO.
503

1
1.00 V
M 200µs A Ch1 1.82 V
10.20 %

2
1.00 V
M 200µs A Ch1 1.82 V
10.20 %

3
1.00 V
M 200µs A Ch1 2.74 V
10.20 %

4
1.00 V
M 200µs A Ch1 2.74 V
10.20 %



M306V7MG-082FP U0
[U306V7FG]
1/3
IC601

VHOLD1 1 | HLF1 2 | P94/DA1/SCL3/RxD2 3 | P93/DA0/SDA3/TxD2 4 | P92/TB2IN/DIGR0 5 | P91/TB1IN 6 | P90/TB0IN 7 | BYTE 8 | CNVSS 9 | P87/XCIN/DIGG0 10 | P86/XCOUT/DIGB0 11 | RESET 12 | XOUT 13 | VSS 14 | XIN 15 | VCCI 16

CVIN1 100 | VCCE 99 | TVSETB 98 | CVIN2 97 | HLF2 96 | VHOLD2 95 | P102/AN0 94 | P103/AN1 93 | P104/AN2 92 | P105/AN3/DIGB2 91 | P106/AN4/DIGG2 90 | P107/AN5/DIGR2 89 | P00/D0 88 | P01/D1 87 | P02/D2 86 | P03/D3 85

604:3C C_CVIN1
604:3E C_CVIN2

C_3.3V
C_5V1

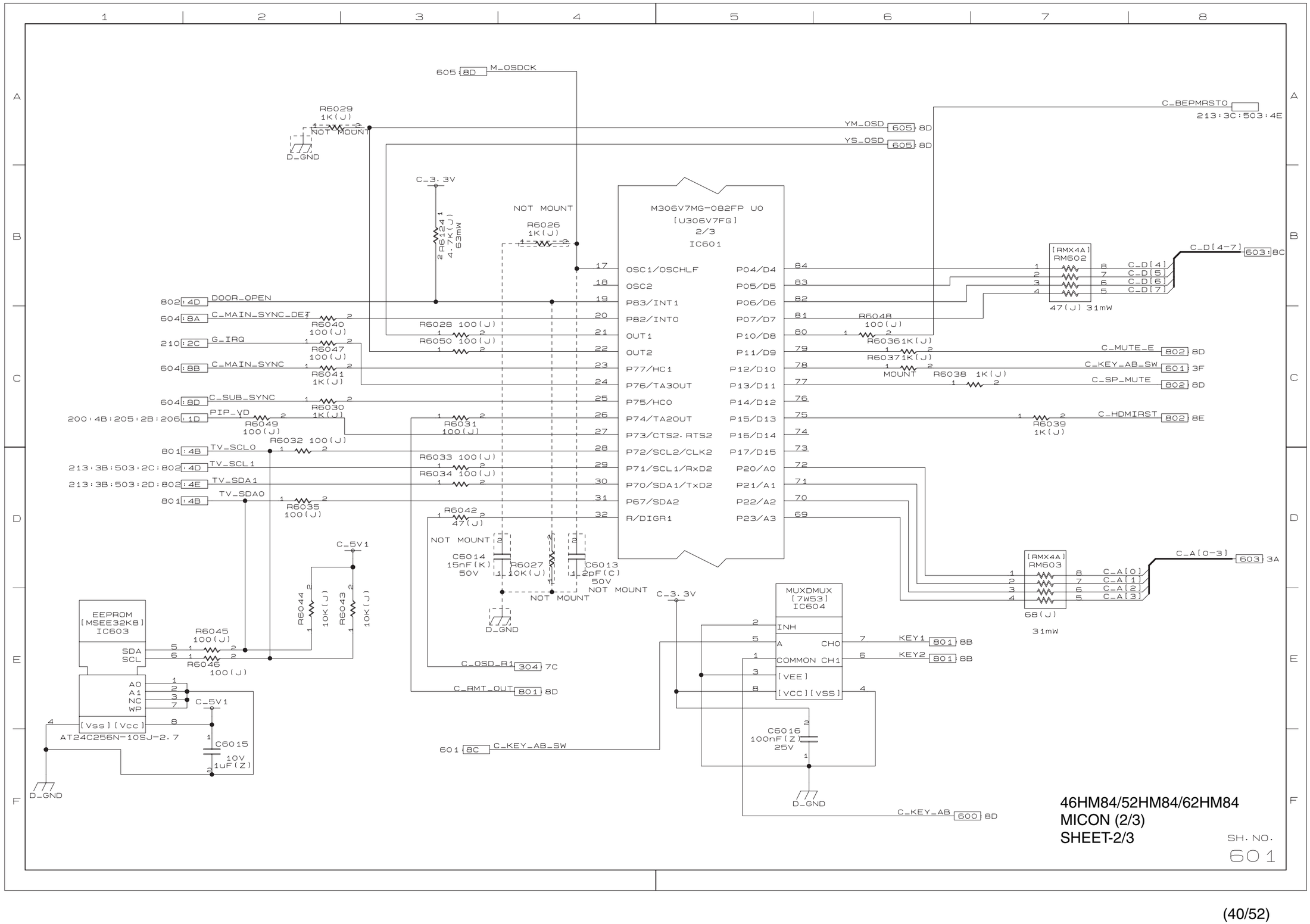
[DMF] D6001 (A, C, NC)
[TP] DP602
[TP] DP601
W6001 NOT MOUNT
W6002 NOT MOUNT
W6003 NOT MOUNT
C6001 100nF(Z) 25V
R6013 10K(J)
R6005 1K(J)
R6016 1K(J)
R6001 1K(J)
R6002 1K(J)
C6005 2.2uF(K)
304:7C C_OSD_R0
R6018 47(J)
802:4C C_ACP
R6015 33K(J)
801:8D C_RMT_IN
R6003 2.2K(J)
R6004 47K(J)
602:1F:801:4B C_BOOT
R6014 100(J)
304:7C C_OSD_G0
R6019 47(J)
304:7D C_OSD_B0
R6020 47(J)
C_RST
R60081K(J)
602:1E:603:2D:801:4B
R6119 68K(J)
R6024 47(J) NOT MOUNT
R6025 1M(J)
R6007 10K(J) NOT MOUNT
R6006 1K(J)
C6009 220pF(J)
C6007 1nF(K)
C6003 100nF(Z) 25V
C6002 100nF(Z) 25V
[XCMA] X6001
CSTCE10M0G52-R0
(GND) 2
3.29
3.29

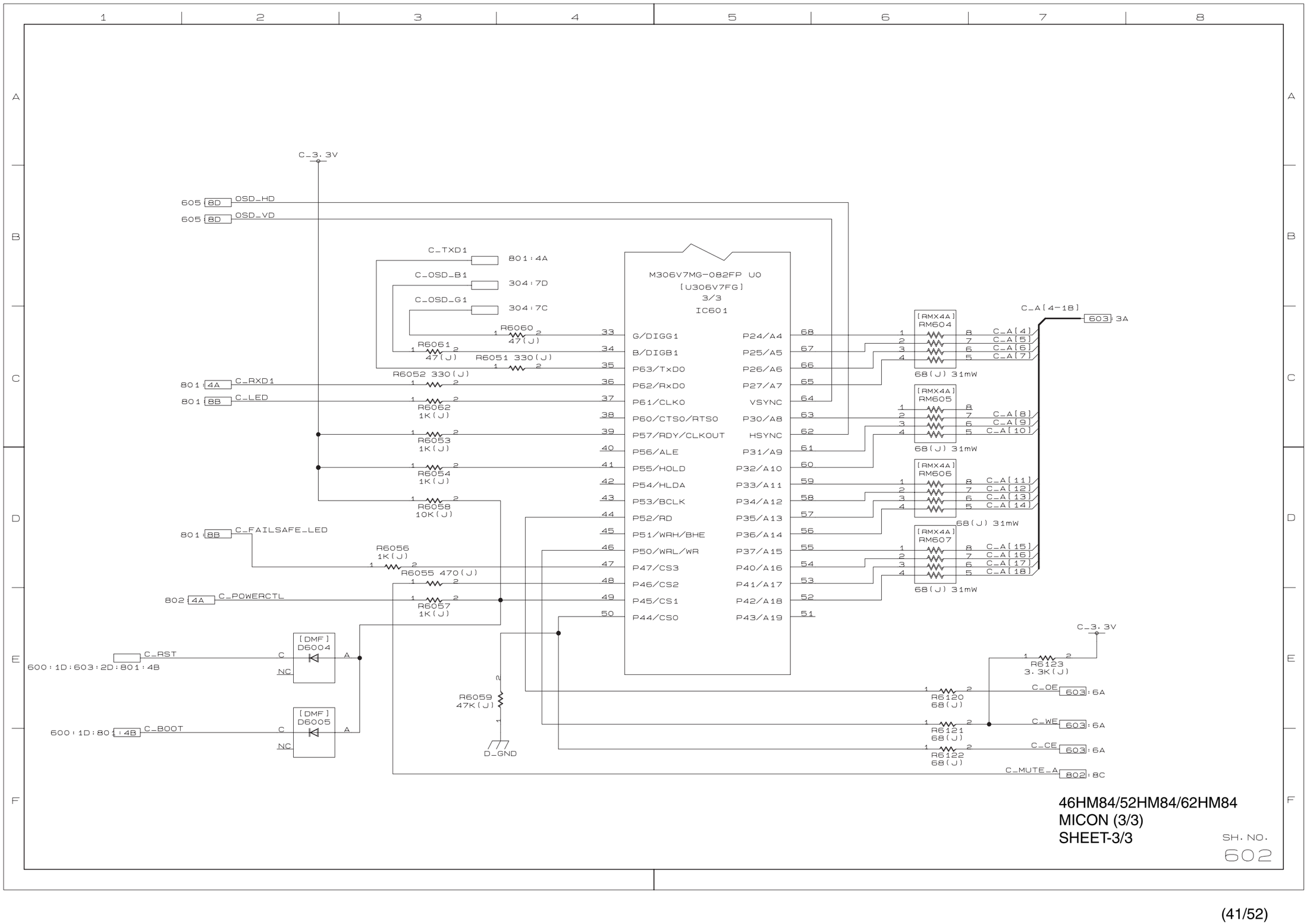
R6009 33K(J)
C6010 330pF(J)
C6011 330pF(J)
R6010 1K(J)
R6011 1K(J)
R6012 1K(J)
R6023 47(J)
R6022 47(J)
R6021 47(J)
C_KEY_AB 601 6F
C_AFT2 802 8B
C_AFT1 802 8A
C_OSD_B2 304 7C
C_OSD_G2 304 7C
C_OSD_R2 304 7C
C_D[0-3] 603 3C
[RMX4A] RM601
8 C_D[0]
7 C_D[1]
6 C_D[2]
5 C_D[3]
47(J) 31mW
R6017 1K(J)
C6004 100nF(Z) 25V
C6008 220pF(J)
C6012 1nF(K)
C6006 2.2uF(K)

D_GND

46HM84/52HM84/62HM84
MICON (1/3)
SHEET-1/3

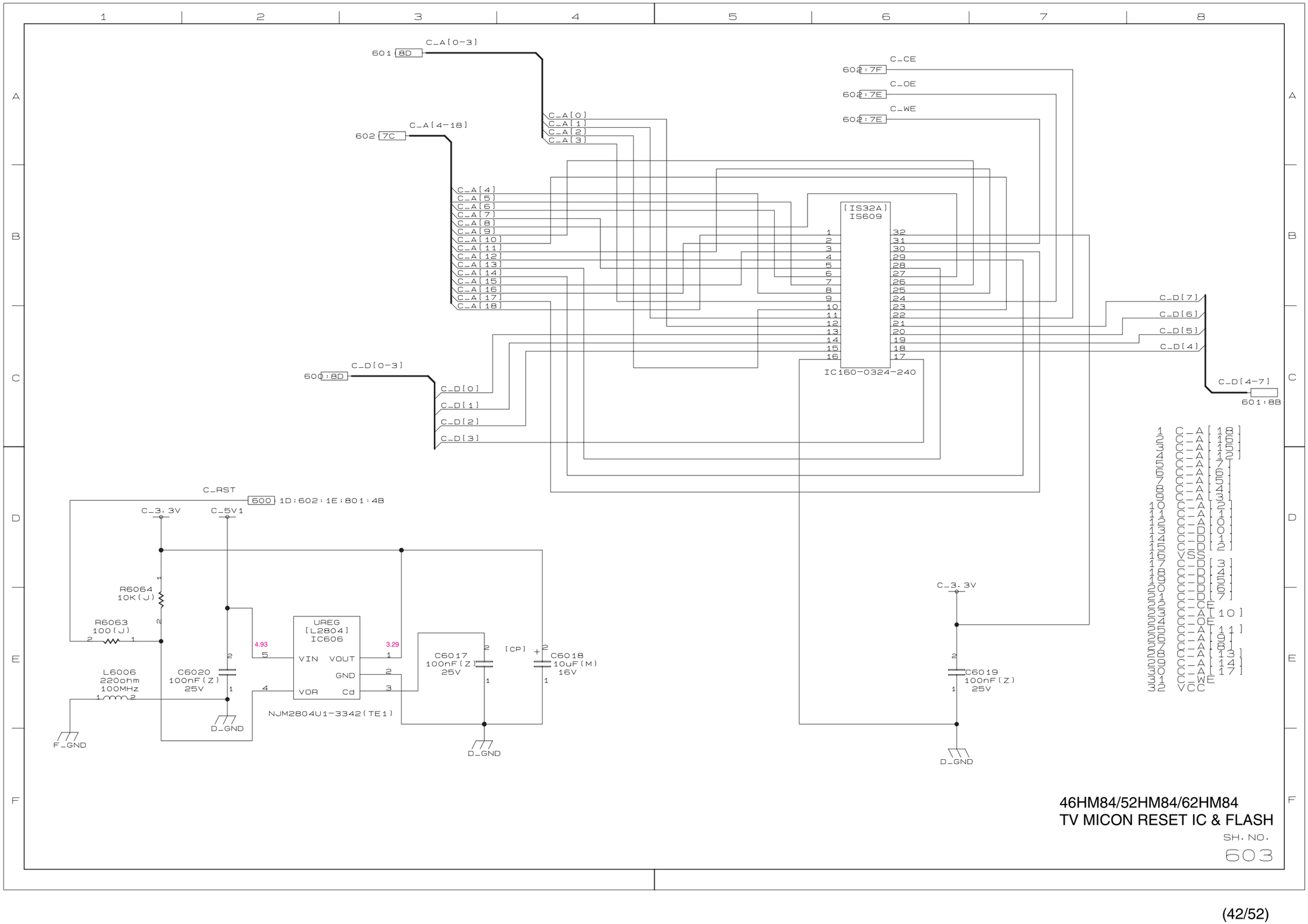
SH. NO.
600


M306V7MG-082FP U0
[U306V7FG]
2/3
IC601
605:8D M_OSDCK
R6029 1K(J) NOT MOUNT
D_GND
C_3.3V
2R6124 4.7K(J) 63mW
NOT MOUNT
R6026 1K(J)
YM_OSD 605:8D
YS_OSD 605:8D
C_BEPMRSTO
213:3C:503:4E
802:4D DOOR_OPEN
604:8A C_MAIN_SYNC_DET
R6040 100(J)
210:2C G_IRQ
R6047 100(J)
604:8B C_MAIN_SYNC
R6041 1K(J)
604:8D C_SUB_SYNC
R6030 1K(J)
200:4B:205:2B:206:1D PIP_YD
R6049 100(J)
801:4B TV_SCL0
R6032 100(J)
213:3B:503:2C:802:4D TV_SCL1
213:3B:503:2D:802:4E TV_SDA1
801:4B TV_SDA0
R6035 100(J)
R6028 100(J)
R6050 100(J)
R6031 100(J)
R6033 100(J)
R6034 100(J)
R6042 47(J)
C6014 15nF(K) 50V
R6027 10K(J)
C6013 2pF(C) 50V
NOT MOUNT
NOT MOUNT
D_GND
C_OSD_R1 304 7C
C_RMT_OUT 801 8D
601 8C C_KEY_AB_SW
17 OSC1/OSCHLF
18 OSC2
19 P83/INT1
20 P82/INT0
21 OUT1
22 OUT2
23 P77/HC1
24 P76/TA3OUT
25 P75/HC0
26 P74/TA2OUT
27 P73/CTS2.RTS2
28 P72/SCL2/CLK2
29 P71/SCL1/RxD2
30 P70/SDA1/TxD2
31 P67/SDA2
32 R/DIGR1
84 P04/D4
83 P05/D5
82 P06/D6
81 P07/D7
80 P10/D8
79 P11/D9
78 P12/D10
77 P13/D11
76 P14/D12
75 P15/D13
74 P16/D14
73 P17/D15
72 P20/A0
71 P21/A1
70 P22/A2
69 P23/A3
[RMX4A] RM602
47(J) 31mW
C_D[4-7] 603:8C
C_D[4]
C_D[5]
C_D[6]
C_D[7]
R6048 100(J)
R60361K(J)
R60371K(J)
MOUNT
R6038 1K(J)
C_MUTE_E 802 8D
C_KEY_AB_SW 601 3F
C_SP_MUTE 802 8D
R6039 1K(J)
C_HDMIRST 802 8E
[RMX4A] RM603
68(J) 31mW
C_A[0-3] 603 3A
C_A[0]
C_A[1]
C_A[2]
C_A[3]
C_5V1
R6044 10K(J)
R6043 10K(J)
EEPROM
[MSEE32K8]
IC603
R6045 100(J)
SDA
SCL
A0
A1
NC
WP
[Vss] [Vcc]
AT24C256N-10SJ-2.7
C6015 10V 1uF(Z)
D_GND
C_3.3V
MUXDMUX
[7W53]
IC604
INH
A
CHO
COMMON CH1
[VEE]
[VCC] [VSS]
KEY1 801 8B
KEY2 801 8B
C6016 100nF(Z) 25V
D_GND
C_KEY_AB 600 8D
46HM84/52HM84/62HM84
MICON (2/3)
SHEET-2/3
SH. NO.
601



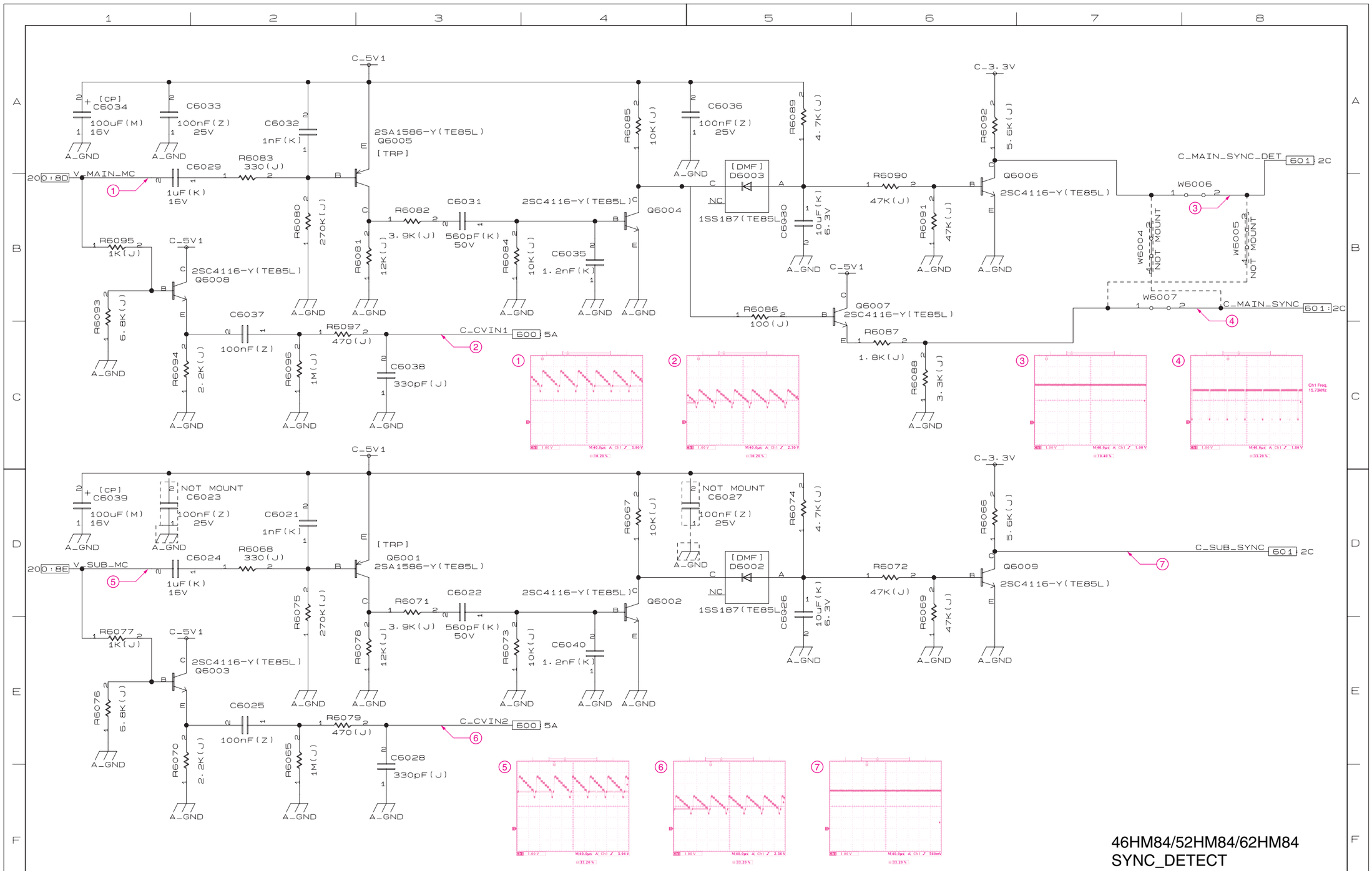
46HM84/52HM84/62HM84
MICON (3/3)
SHEET-3/3

SH. NO.
602



46HM84/52HM84/62HM84
TV MICON RESET IC & FLASH

SH. NO.
603



46HM84/52HM84/62HM84
SYNC_DETECT

SH. NO.
604

210:6B:30 0:1E LVD_HS

210:6B:30 0:1E LVD_VS

50 0:7B HIRA_HYPER

3.3VS_11

[CN6]
PJ104
TCK 1
TDO 2
3.3V 3
TMS 4
TDI 5
GND 6

L6005 L6001 L6002 L6003 L6004

G36220127098

W6008

L6008 22ohm 100MHz NOT MOUNT

F_GND

R6106 33 R6107 33 R6104 33 R6105 33

R6128 4.7K(J) NOT MOUNT
R6126 4.7K(J) NOT MOUNT
R6102 4.7K(J) NOT MOUNT
R6100 4.7K(J) NOT MOUNT
R6101 4.7K(J) NOT MOUNT
R6103 4.7K(J)

R6130 4.7K(J) NOT MOUNT
R6098 4.7K(J) NOT MOUNT
R6099 4.7K(J)
R6118 4.7K(J) NOT MOUNT

I2C1_CNT 503:1B

to MAIN uCOM

PLD
[G3064]
IC607

		GCLK1	37
		OE1	38
		GCLRn	39
		GCLK2	40
		I/O/TDI	1
		I/O	2
		I/O	3
		I/O	5
		I/O	6
		I/O	7
		I/O/TMS	8
		I/O	10
		I/O	12
		I/O	13
		I/O	14
N.C.		I/O	15
N.C.		I/O	18
[VCC]	[GND]		9
[VCC]	[GND]		17
[VCC]	[GND]		29
[VCC]	[GND]		41
[GND]			4
[GND]			11
[GND]			16
[GND]			24
[GND]			30
[GND]			36
I/O			44
I/O			43
I/O			42
I/O			35
I/O			34
I/O			33
I/O	TDO/I/O		32
I/O			31
I/O			28
I/O			27
I/O			26
I/O	TCK/I/O		25
I/O			23
I/O			22
I/O			21
I/O			20
I/O			19

N.C.

D_GND

304 7D OSD_CLK

to BEP uCOM

304 7D HIRA_HD

304 7D HIRA_VD

304 7D YM_BEP_IN

304 1D YS_BEP_IN

804 8D CNFLG

R6110 10K(J)

R6127 4.7K(J)
R6125 4.7K(J)
R6113 4.7K(J)
R6111 4.7K(J)
R6114 4.7K(J)
R6107 4.7K(J)

C6042 100nF(Z)
C6041 100nF(Z)
C6044 100nF(Z)
C6043 100nF(Z)

HD:3us PDP/70MHz -> 70h
LCD/65MHz -> 70h

R6129 4.7K(J)
R6117 4.7K(J)
R6116 4.7K(J) NOT MOUNT
R6115 4.7K(J)

6 OSD_VD 602:2B

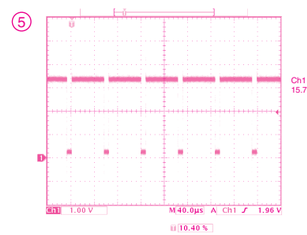
5 OSD_HD 602:2B

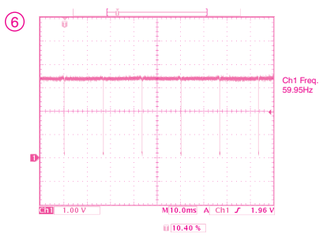
100 R6108 YM_OSD 601:6A

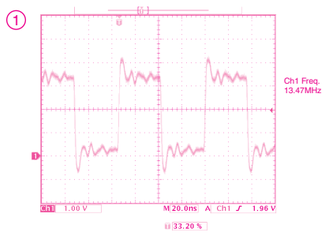
100 R6109 YS_OSD 601:6A

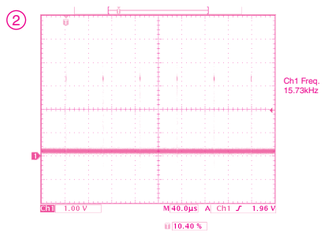
100 R6112 M_OSDCK 601:3A

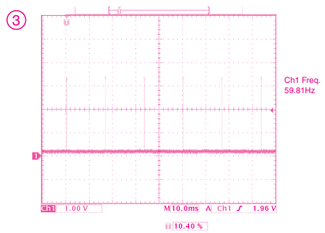
4

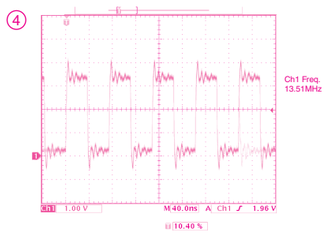






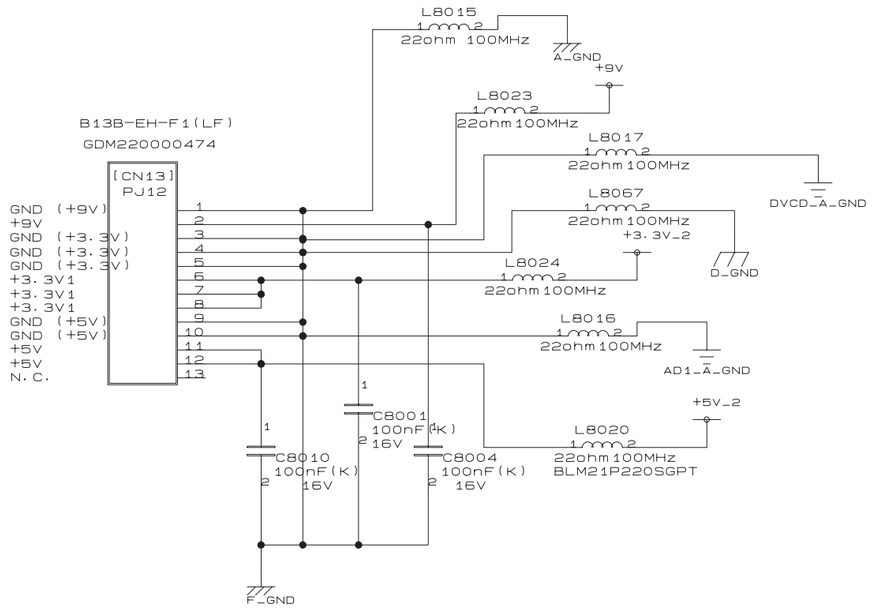






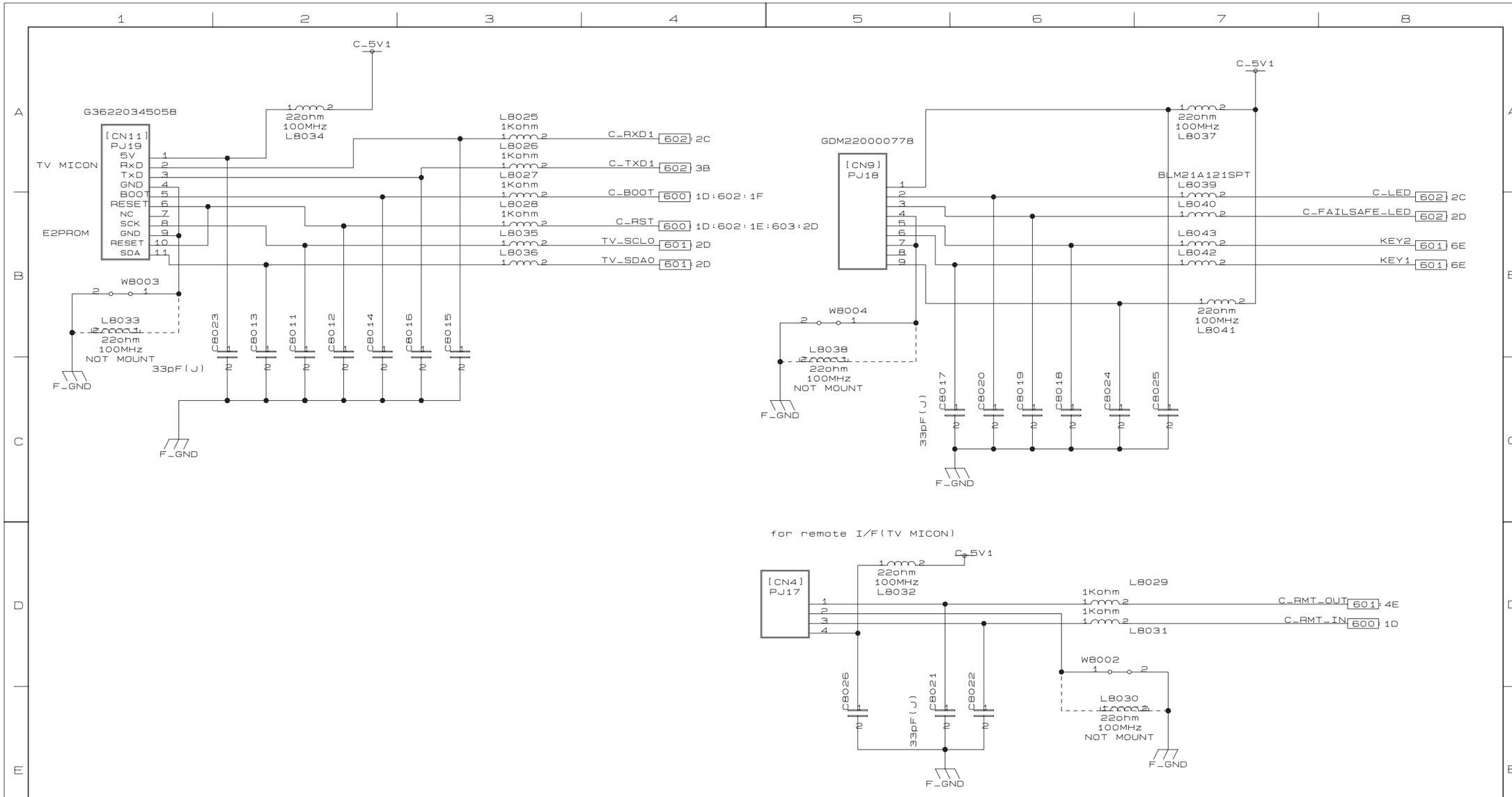
46HM84/52HM84/62HM84
PLD (US OSD SYNC Generator)

SH. NO.
605



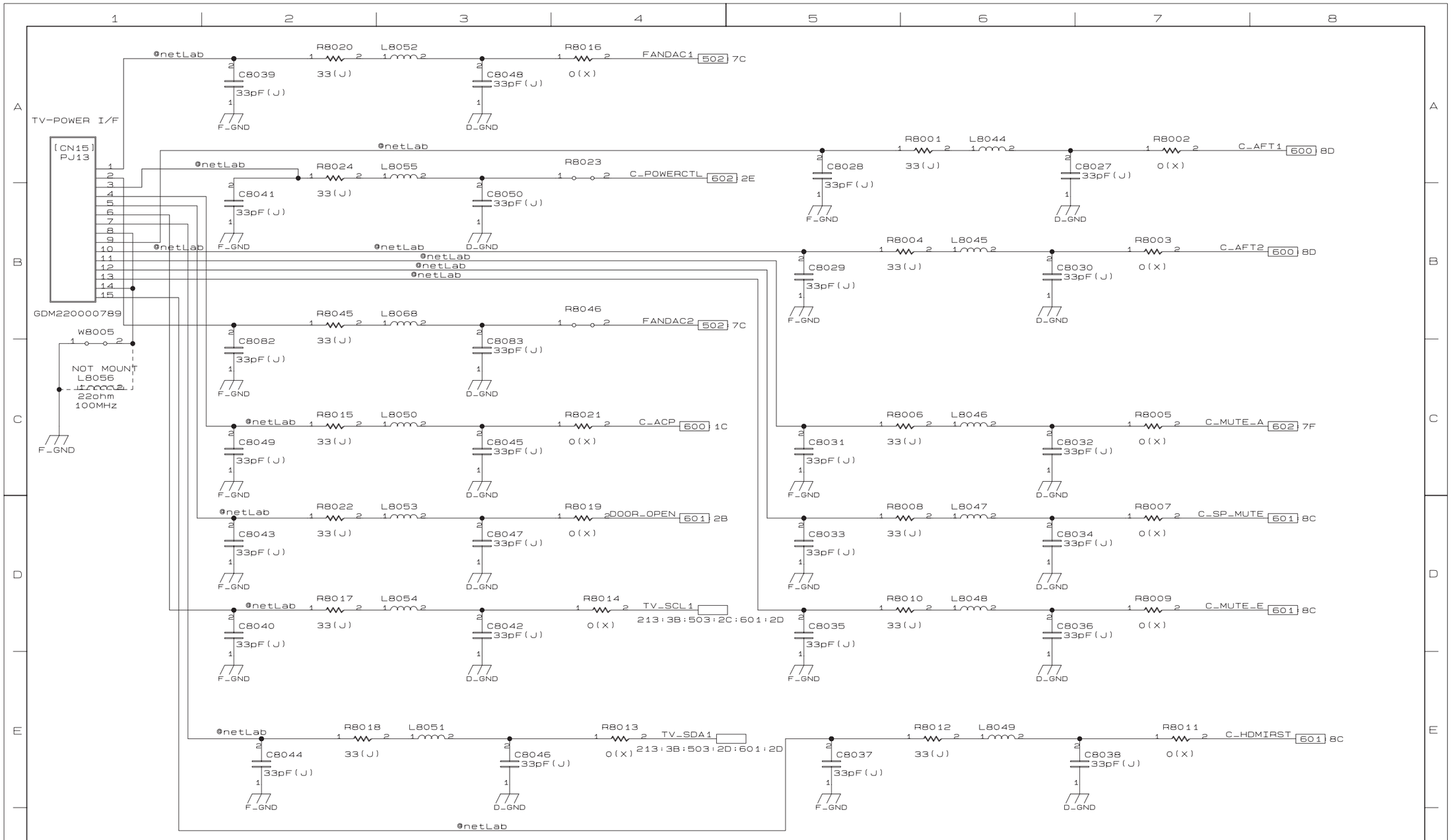
46HM84/52HM84/62HM84
POWER_CONNECTOR

SH. NO.
800



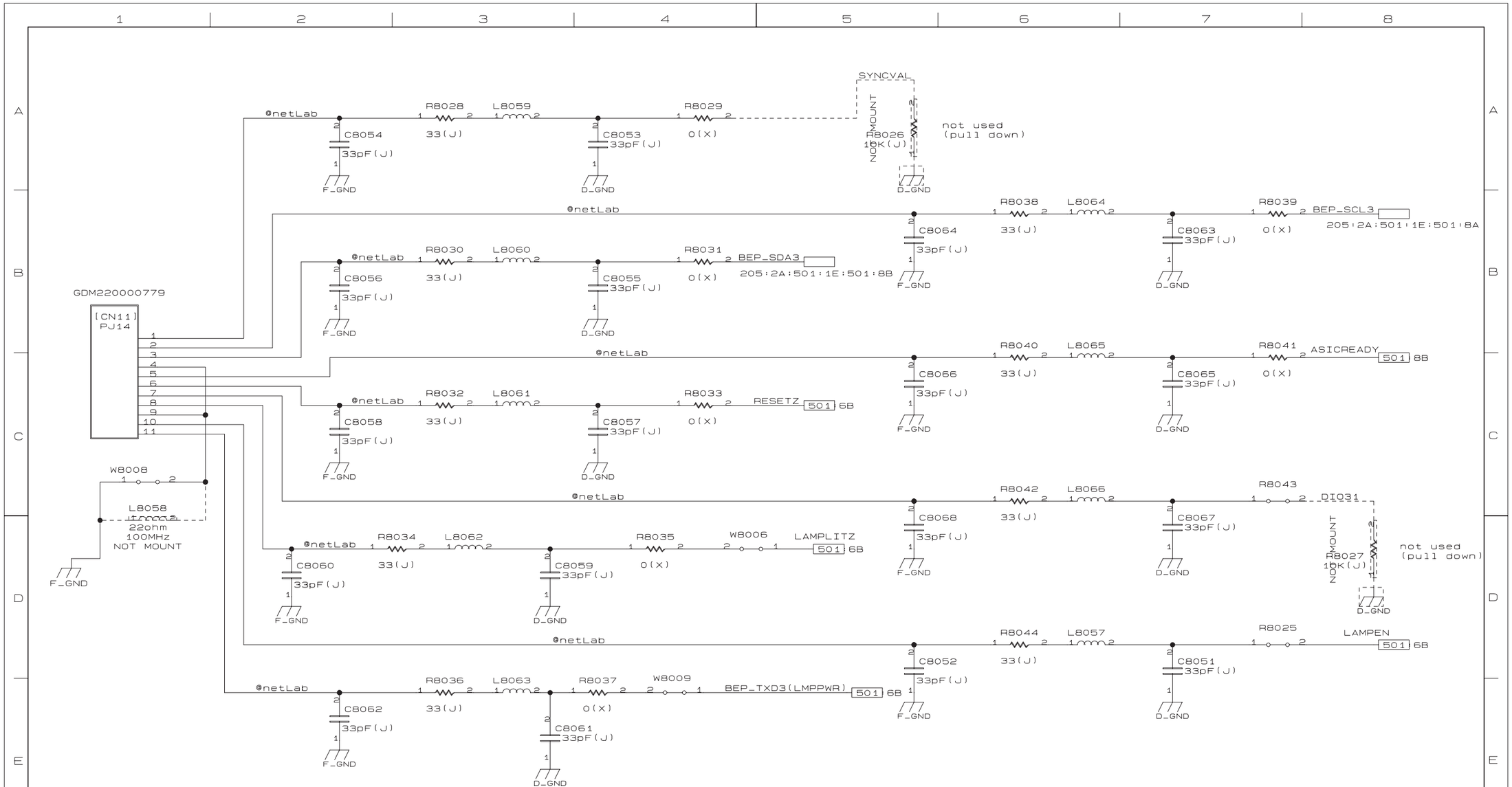
46HM84/52HM84/62HM84
TV MICON CONNECTOR (1)

SH. NO.
801



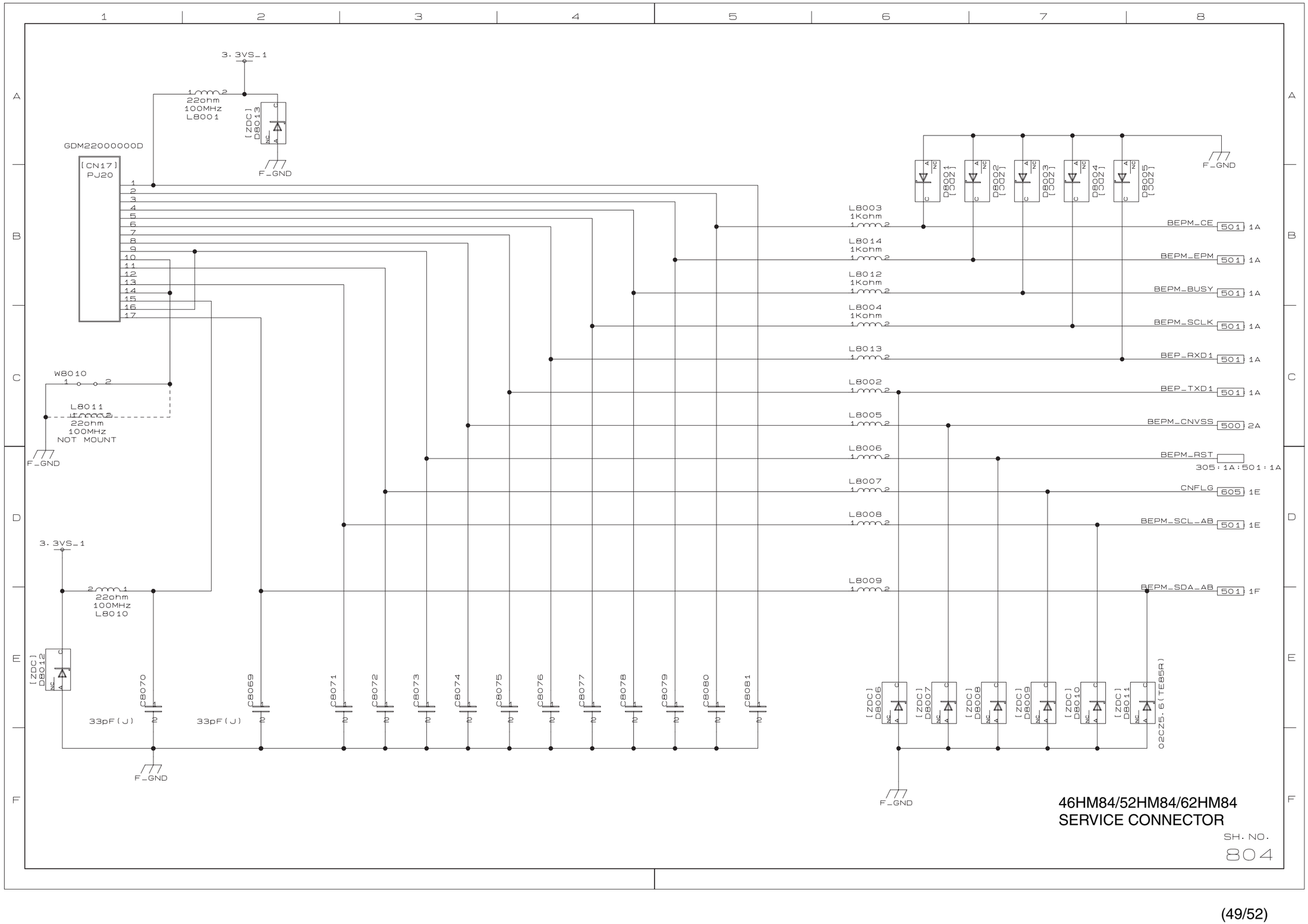
46HM84/52HM84/62HM84
CONNECTOR (TV MICON-POWER BOARD)

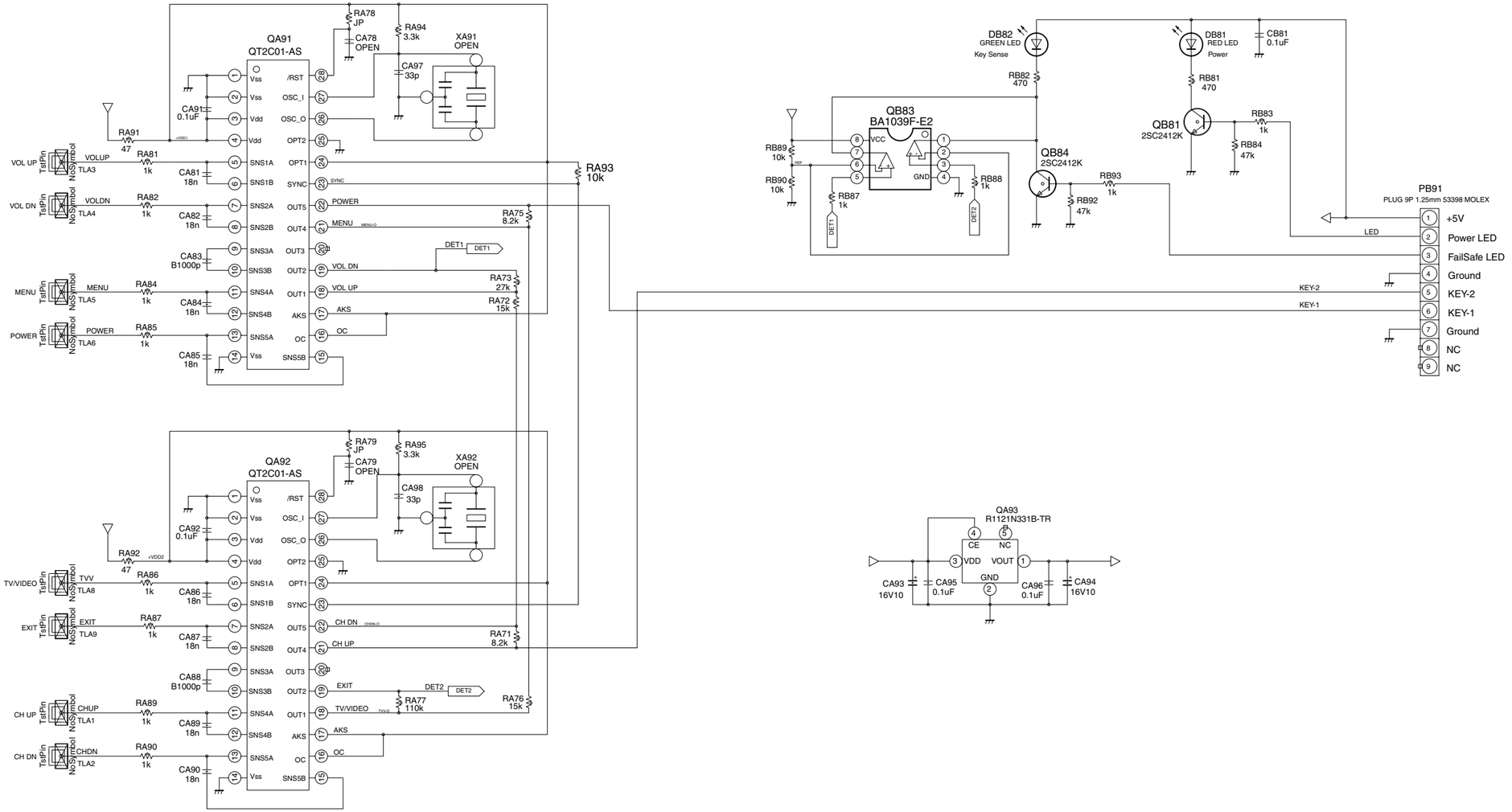
SH. NO.
802



46HM84/52HM84/62HM84
CONNECTOR (DLF I/F)

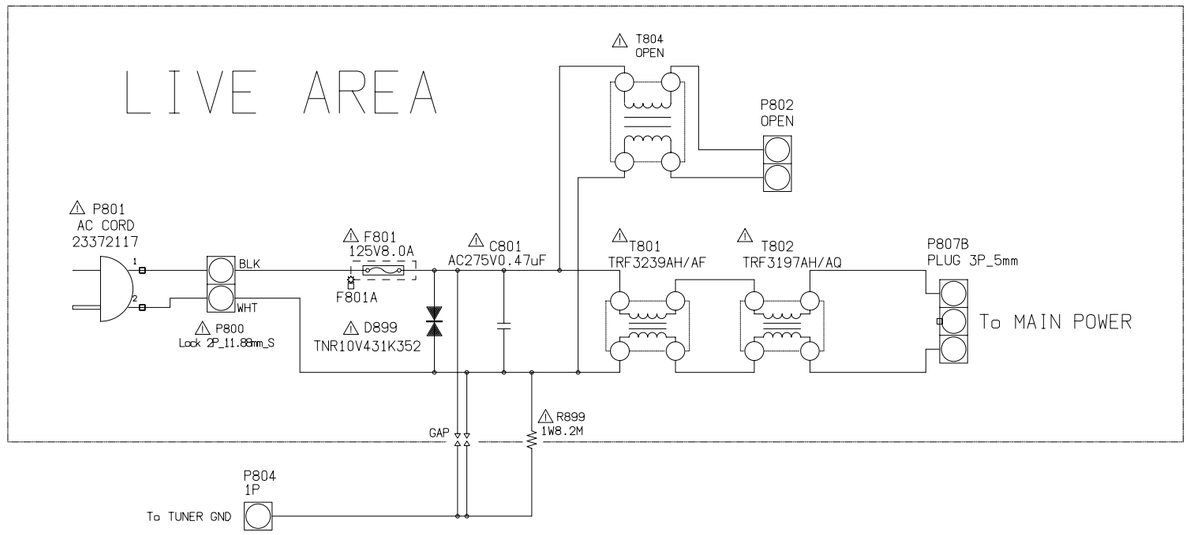
SH. NO.
803


3.3VS_1
22ohm
100MHz
L8001
[ZDC]
D8013
F_GND
GDM220000000D
[CN17]
PJ20
W8010
L8011
22ohm
100MHz
NOT MOUNT
3.3VS_1
22ohm
100MHz
L8010
[ZDC]
D8012
C8070
33pF(J)
C8069
33pF(J)
C8071
C8072
C8073
C8074
C8075
C8076
C8077
C8078
C8079
C8080
C8081
F_GND
L8003
1Kohm
L8014
1Kohm
L8012
1Kohm
L8004
1Kohm
L8013
L8002
L8005
L8006
L8007
L8008
L8009
[ZDC]
D8001
[ZDC]
D8002
[ZDC]
D8003
[ZDC]
D8004
[ZDC]
D8005
F_GND
BEPM_CE 501 1A
BEPM_EPM 501 1A
BEPM_BUSY 501 1A
BEPM_SCLK 501 1A
BEP_RXD1 501 1A
BEP_TXD1 501 1A
BEPM_CNVSS 500 2A
BEPM_RST
305:1A:501:1A
CNFLG 605 1E
BEPM_SCL_AB 501 1E
BEPM_SDA_AB 501 1F
[ZDC]
D8006
[ZDC]
D8007
[ZDC]
D8008
[ZDC]
D8009
[ZDC]
D8010
[ZDC]
D8011
02CZ5.6(TE85R)
F_GND
46HM84/52HM84/62HM84
SERVICE CONNECTOR
SH. NO.
804



46HM84/52HM84/62HM84
Front Key

46HM84/52HM84/62HM84
MAIN POWER



46HM84/52HM84/62HM84
AC IN